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UNIVERSITY OF ILLINOIS
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NEWS LETTER



UNIVERSITY OF ILLINOIS MUSEUM OF NATURAL HISTORY

Volume 1, Number 1 (1986)

The Museum of Natural History

The Museum of Natural History is almost as old as the University itself. It was started in 1870, shortly after the University was established in 1868. University Hall, built in 1868, included space for zoological collections and a Museum of Natural History. The Museum has always had both educational and research responsibilities on the campus.

Some 15,000 square feet of the Natural History building are devoted to exhibits in biology, geology, archaeology and ethnology. These occupy two major exhibit rooms (the Hall of Animals and the Hall of the Past) as well as two smaller rooms and many of the hallways. Stretched end-to-end, the exhibits occupy more than 1,590 linear feet.

All of the present exhibits have been worked on during the past 30 years, so the arrangement reflects modern thinking in many areas. What is known, what is exciting, and what can be displayed effectively changes, however, so that keeping the exhibits fresh is a major challenge. This is particularly true of the permanent exhibits in the two main halls.

The research collections, particularly those of mollusks, amphibians, reptiles and mam-

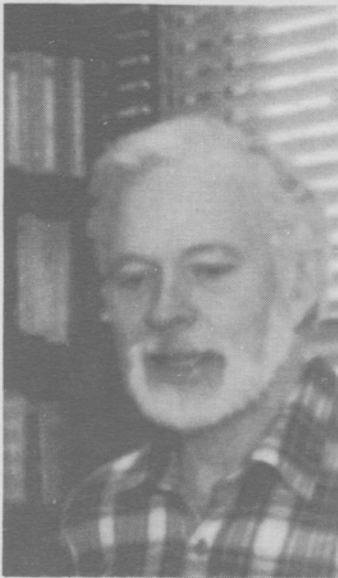
mals, are internationally recognized for their importance. Of these, the collections of amphibians, mammals and reptiles have been most active recently, and numerous scholars, both on campus and elsewhere, have written papers using them. Students trained in these collections occupy important posts in many U. S. museums.

Mammals of Arizona

Professor Donald Hoffmeister's long-awaited book on The Mammals of Arizona has just been published by the University of Arizona Press. This handsome volume, some 602 pages with 304 figures and 129 maps, describes the 138 species (211 subspecies) of Arizona mammals, giving details of morphology, ecology, distribution, life history and relationships. Dr. Hoffmeister's book represents the summation of over 35 years' research in this area. Many of the 43,000 specimens used in this study belong to the Museum of Natural History, which has the largest research collection of Arizona mammals existing.

Copies of Dr. Hoffmeister's book are available for sale in The Corner Cabinet.

From The Director



I've been associated with museums since high school days, when I worked in the Charleston Museum, one of this country's first. The University of Michigan Museum of Zoology, the Field Museum, the Yale Peabody Museum and the Academy of Natural Sciences of Philadelphia have all been intellectual homes. Always I've been a consumer, so to speak, of museum administration. It's a new experience trying to be a producer.

A lot has happened here at the Museum of Natural History since I arrived last October. I'd be proud to take credit for it all, but I can't. I have tried, though, to make it easier for the splendid staff and volunteers who have done so much. These include Sandra Batzli, Volunteer and Education Coordinator, and her corps of volunteers; and Harry Henriksen, Curator of Exhibits, and his work-study crew. Together they have breathed new life into the public parts of the Museum. The curators of mammals (Ray Lee), amphibians and reptiles (Linda Maxson), mollusks (Lowell Getz) and the Director Emeritus (Donald Hoffmeister) have upheld the research traditions of the museum. Secretarial help from Jane Feilin and expert management of finances by Paul Mortensen have kept the organization running smoothly. All of

these people have educated me and all of them have earned my thanks.

This, our first newsletter, describes some of the things that have happened: our new exhibits, our Discovery Room, our gift shop "the Corner Cabinet," the Friends group, the lectures, both public and academic, and the Molecular Phylogeny Group, to name a few. We plan in the future to continue in these ways, but we have new things in mind too: I see a small dinosaur and an art contest; I look forward to building the size of our staff, both paid and voluntary. But I must say that one of the most interesting aspects of being director is the opportunity it provides to leap into new ventures; I'm sometimes surprised at what we do, but with a good staff and so much possible, life here is exciting.

Thomas Uzzell

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NEWSLETTER



UNIVERSITY OF ILLINOIS MUSEUM OF NATURAL HISTORY

The Newsletter is published by the Museum of Natural History at the University of Illinois in Urbana, IL.

Editor:

Thomas Uzzell
Museum of Natural History
438 Natural History Building
1301 West Green Street
Urbana, IL 61801



The Discovery Room

The Discovery Room, a small area within the Museum designed to give visitors an opportunity for a closer examination of exhibit materials, is loosely patterned after the exciting room created ten years ago at the Natural History Museum in Washington, DC.

Two of the first of a series of educational materials developed for the Discovery Room were boxes, one organized with teeth and skulls of various animals, and the other, with sea shells accompanied by an imaginary story that draws attention to specific shells. They were developed by two interested volunteers. The items used in the boxes came from private and unaccessioned Museum collections. The tooth and the shell boxes have intrigued visitors of all ages. They have stimulated them

to consider these and related areas more thoughtfully. With the help of volunteers, we plan to add more Discovery Boxes. If you're interested in trying your hand at developing such boxes, we guarantee you'll find it an interesting and worthwhile endeavor.

Our Discovery Room is made possible and is staffed entirely by volunteers. The first steady volunteer came to us as a result of "casting our line" for a "fisherman" when the Museum placed an ad in the Retired Senior Volunteer Program newsletter. Mr. Thomas Ewing was our prize catch. Mr. Ewing, a retired psychologist with Student Services at UIUC, has devoted hours to researching and learning more about a subject close to his heart - fish. Not only does Mr. Ewing teach our visitors to consider the importance of fish, he is writing

background information about the various families of fish on display in the Museum; this will enable our other volunteers, who regularly conduct tours, to be self-sufficient in this subject area.

Since his retirement, Tom has found time to lend his helping hand to other local museums, as well as civic groups. We at the Natural History Museum are proud and grateful for his commitment to science education.

* * * * *

Workshop for Grandparents

The Discovery Room volunteers are sponsoring an informal workshop especially for the many local visitors to the Museum who bring their grandchildren to see the exhibits. It is necessary to register in advance. A special tour will be offered featuring areas of the Museum with displays on: giant reptiles, fish, fossils and Indians. In addition, the Discovery Room will be open. A faculty member will be on hand to discuss the interesting aspects of his or her research, and all participants will be invited to contribute to a general discussion of museums and children during a refreshment break. Informational hand-outs describing pre-arranged tours, Museum floor guides, parking solutions and near-by luncheon spots with menus appropriate to children will be available for everyone.

The workshop will be held on Sunday, 12 April 1987 from 2:00 - 4:00 PM in room 228 Natural History Building. Grandparents interested in attending this workshop are encouraged to register early (space is limited) by calling 333-1149 (Monday, Wednesday, or Friday morning) or 333-2517.

Museum Lectures

Museum research, like all research, should be communicated to the public if the public is asked to support that research. This year the Museum has supported a series of lectures, some for the general public, others more technical, on topics related to its activities.

The first talk was in late April, when Professor Allan C. Wilson, a recent MacArthur fellow from the Department of Biochemistry, University of California, Berkeley, reviewed work on mitochondrial DNA in his laboratory that supports the African origins of the human species.

Among others was a talk by Professor Thomas C. Anderson, Department of Geology, UIUC, emphasizing the agreement among diverse radioisotope methods that the earth and our solar system are about 4.5 billion years old.

To mark the opening of the Museum's new display of paintings of state birds of the United States, we hosted Mr. Robert McCracken Peck, Fellow of the Academy of Natural Sciences of Philadelphia. Mr. Peck spoke on three centuries of wildlife painting in America, pointing out the historical relationships among many of the better known painters of birds, as well as the influence of increasing knowledge about the relationships of the birds themselves on how they were painted.

The last seminar of the spring was presented by Dr. Jack Sites of Brigham Young University, who used his studies of lizards to demonstrate some of the difficulties with theories that new species arise as a result of chromosomal changes.

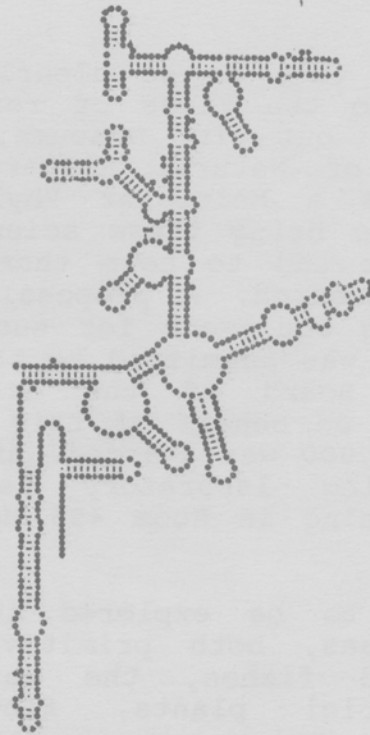
Our first lecture in the fall, and the first within the Museum proper, was presented by Dr. Michael Jeffords, an entomologist at the Illinois Natural History Survey. Dr. Jeffords spoke of the forest on the prairie, and his lecture was timed to mark Illinois Prairie Week and our new prairie exhibit.

In the near future, the Museum will co-sponsor a talk by Dr. Donald Johanson, Director of the Institute of Human Origins, on the remarkable early fossil relative of humans, known popularly as Lucy. This lecture will be given at Foellinger Auditorium at 7:30 PM, Tuesday 18 November.

Our final seminar for 1986 will be on Wednesday 10 December. Dr. Craig Moritz of the University of Michigan Museum of Zoology will discuss his research on parthenogenetic lizards of Australia and adjacent islands. (4:00 PM; 124 or 140 Burrill Hall, UIUC).

Most of these seminars were sponsored jointly with other units on campus, including:

- The George A. Miller Committee
- The Department of Anthropology
- The Department of Art and Design
- The Department of Ecology, Ethology, and Evolution
- The Department of Genetics and Development
- The Department of History
- The School of Life Sciences
- The Art History Program
- The Graphic Design Program
- The Laredo Taft Committee of the College of Fine and Applied Arts
- The Center for African Studies
- The World Heritage Museum



The Molecular Phylogeny Group

A long-term research program of natural history museums is to study the systematics of living organisms: What kinds are there, both living and extinct? How are they related to each other in their phylogeny? What accounts for the enormous diversity that we see? It is to answer questions like these that the Museum of Natural History has amassed its research collections.

Modern biochemical methods can also be used to study these questions, and many faculty members of the University of Illinois carry on such research. Last winter some 17 staff members and students from several schools and departments discovered that each of them independently, following his own research interests, saw that by learning the sequence of ribosomal RNA (rRNA) genes, they could rapidly begin to answer fundamental questions about the relationships of their special groups of organisms.

Because this is so clearly related to the kinds of research carried out in museums, the Museum of Natural History now sponsors a Molecular Phylogeny Group to bring these scientists together and to help them with this research. A proposal, requesting equipment for such research, was submitted to the Research Board of the Graduate College on behalf of this group and \$15,000 was awarded. An rRNA sequencing laboratory is now functioning in Room 455 Morrill Hall.

Groups to be explored include amphibians, both primitive and advanced fishes, the earliest terrestrial plants, flowering plants, protozoans, mollusks, insects and many others.

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This Year's New Exhibits

This year the museum put together four temporary exhibits covering a wide range of interests.

In the spring, it opened "America's Favorites," an exhibit of paintings of state birds by wildlife artist Richard Sloan. Located in the third floor gallery of the Museum, this colorful exhibit featured twenty-eight prints of Sloan's work and gave a brief biography of the artist. The exhibit opening was celebrated with a talk on wildlife painting and its history given by Mr. Robert McCracken Peck, Fellow of the Academy of Natural Sciences of Philadelphia, and with an evening reception at the museum. Prints of Sloan's paintings, both those that were displayed and many of his others, are still available at the Corner Cabinet.

In June, the exhibit "Rabbits and Hares" was unveiled on the third floor of the Natural History Building just outside the museum entrance. This exhibit consisted of displays on the history and natural history of rabbits, the range of native rabbits of Illinois, and the summer and winter colorations of Illinois jackrabbits. Its opening corresponded, not accidentally, with the fourth annual Rabbit Industry Conference held at the UIUC campus and sponsored by the Department of Animal Sciences and Cooperative Extension Service.

To mark Illinois Prairie Week, "Did You Know the Prairie?" opened in September. It stands in the front lobby on the second floor of the Natural History Building. The five cases present a brief synopsis of the history of the midwestern United States prairie, its wildlife, and its transformation into farmland. Two short pamphlets (available in boxes on the display cases) were prepared to augment the exhibit information. Opening week, Dr. Michael Jeffords of the Illinois Natural History Survey gave a noon lecture on the prairie forest.

In mid-November, an exhibit on human origins will open in the third floor gallery; later it will shift to the third floor hall. This exhibit focuses on the earliest known human ancestors, which already walked on two feet and made crude stone tools more than two million years ago in eastern Africa. To open the exhibit, Dr. Donald Johanson, director of the Institute of Human Origins and professor of anthropology at Stanford University, will present a lecture outlining his search for early human ancestors in Africa.

The museum looks forward to preparing more temporary exhibits on a variety of topics of interest to its diverse range of visitors. In addition to old favorite displays, visitors will find something new to learn about and enjoy.

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Can You Help?

The Discovery Room is looking for donations of scientific magazines and general reference books in basic biology.

If you have old copies of *Ranger Rick*, *Natural History Magazine*, *Science*, *National Wildlife*, *Smithsonian*, *Audubon*, *National Geographic*, or similar titles, they would be most welcome.

Guide books and reference books in general natural history are also needed. We especially need *The Fishes of Illinois* by Philip W. Smith, Urbana, 1979.

A small, docile snake, perhaps a young corn or king snake, would be very useful to users of the Discovery Room.

If you can help with any of these, contact Sandra Batzli at 333-1149 Monday, Wednesday, Friday 9-12 a.m. or call 333-2517 at other times.

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Museum Hours

The Museum of Natural History is open 8:00 AM to 5:00 PM Monday through Saturday except Labor Day, Thanksgiving and the day after, Christmas through New Year's Day, Memorial Day, and the 4th of July.

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The Corner Cabinet

Using three cabinets obtained from the School of Life Sciences as a display area, the Museum opened a small gift shop in early May. Items reflecting the educational, exhibit or research interests of the Museum are emphasized, and the selection shown is one of our more colorful new exhibits. A variety of natural history books, many of them originally published by the State Museum in Springfield, formed the beginning of the shop's wares.

Other items have been added as time, resources and space permitted. These include note pads with woodcuts of North American mammals (also available as larger sized prints), fired English tiles showing various birds, hunting dogs and fishes, and small hand-painted nature figurines.

To make the fine paintings of Richard Sloan's state birds of the United States more widely available, we have obtained a few copies of each in the 14 inch size. A few examples of the larger prints are also available.

One of the nicest lines shown are hand-made pieces fashioned by the Canelos Quechua Indians of eastern Peru. Carved balsa birds and crocodiles are brightly painted. Pottery bowls are decorated, some with legendary water spirits; these are glazed with vegetable gums.

These and many other items may be purchased when the Discovery Room is open, Monday, Wednesday, and Friday mornings and some afternoons.

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Dinosaurs!

The Museum of Natural History plans to purchase and display skeletons of one or two small dinosaurs as soon as possible. Each costs about \$10,000.

Casts of two quite different species, *Avaceratops lammersi* and *Deinonychus antirrhopus* are both available through the museums that discovered them. *Avaceratops* is a smaller version of the familiar *Triceratops*. It was one of the last species of dinosaurs to live. *Deinonychus* was an active carnivore that ran on two feet. Its name, terrible claw, refers to the enormous claw on the big toe of the hind foot.

You can help the Museum purchase these casts. Contribute to the Dinosaur Fund (donations received in the Discovery Room give the donor a chance to win the Smithsonian Institution's Book of American Indians. Look for sales of Dinosaur Cookies, made and sold by our volunteers to help with this project. Call 333-1149 if you have time to help bake or sell cookies.

Upcoming events:

18 November 1986

Donald Johanson speaks on
"Searching for our earliest
ancestors in Africa"
Foellinger Auditorium
7:30 PM, Tuesday

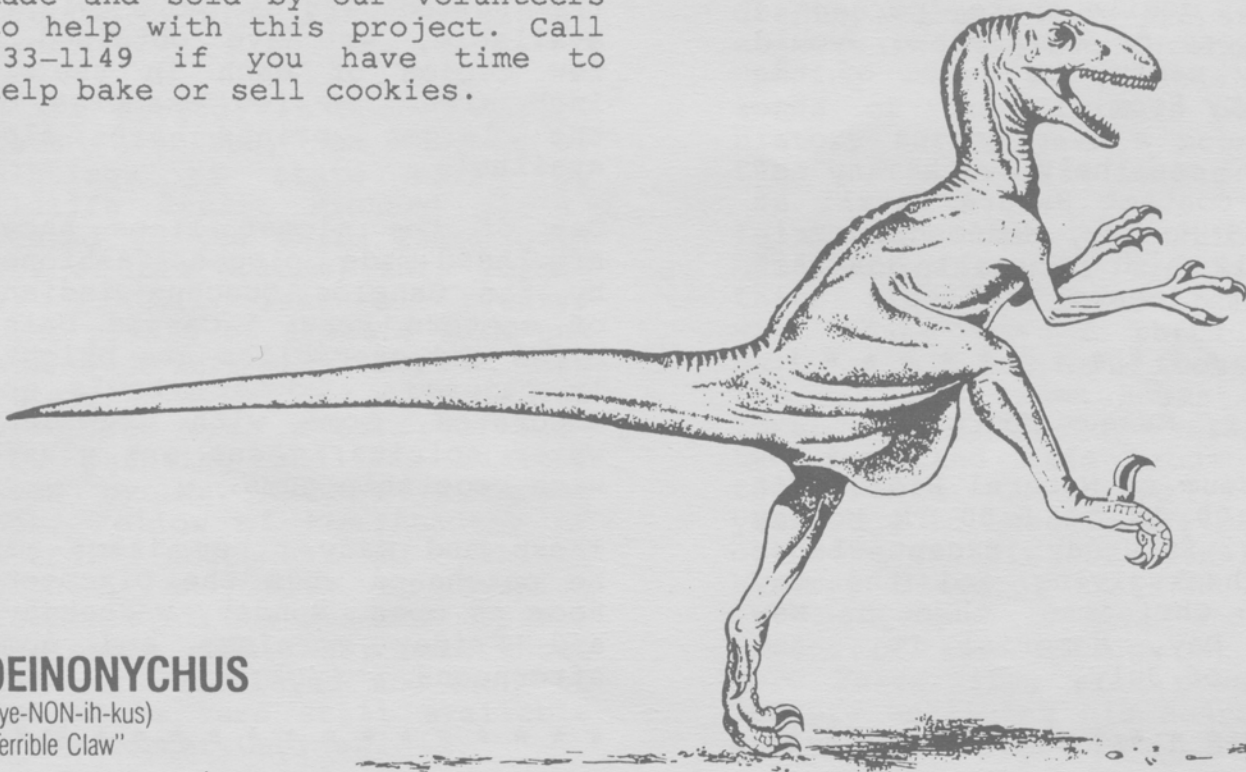
10 December 1986

Craig Moritz speaks on par-
thenogenesis in lizards of Aus-
tralia and adjacent islands.
124 or 140 Burrill Hall
4:00 PM, Wednesday

12 April 1987

Grandparents' Workshop
228 Natural History Building
Advance registration is required
(see article).
2:00 - 4:00 PM, Sunday

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DEINONYCHUS

(dye-NON-ih-kus)

"Terrible Claw"

Thanks!

Many friends have helped the Museum during 1986, with time, with materials, with money. Up to the time this newsletter was typed, the list included these:

Ms. Beth L. Armsey
Mr. and Mrs. Allen Avner
Mr. and Mrs. George O. Batzli
Mrs. Paul C. Crist
Mr. Thomas Ewing
Ms. Deanna Glosser
Dr. Michael L. Griffin
Mrs. Elisabeth Hanson
Ms. Nancy Ruth Hines
Ms. Harriet Mary Jarosz
Mr. Philip E. Jordan
Mr. Charles D. Keyes
Mrs. Frances Caldwell Kiser
Mr. Jeffrey Koppelman
Mr. James D. Kramer
Ms. Carol A. Kubitz
Dr. Ralph L. Langenheim
Mr. Richard K. Lindstrom
Ms. Mary B. Liss
Mrs. Margaret Martling
Ms. Linda Maxson
Mrs. Mary Nell McDaniel
Ms. Jane D. McDonald
Mrs. Beverly Bayless Mullen
Mr. Robert Allen Page
Dr. Philip A. Sandberg
Ms. Debra L. Schoenecker
Ms. Mary Severinghaus
Miss Mary Spelbring
Mr. and Mrs. Charles B. Stout
Mrs. William P. Wikoff
Ms. Mary Winter
Department of Anthropology
Illinois Natural History Survey
Monticello Summer Program for
the Gifted

* * * * *

Sandra Batzli, Susan Bednar,
Deanna Glosser, Jim Kramer,
Carol Kubitz and Chuck Stout
made this newsletter possible.

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Friends

The Museum welcomes new members to its Friends group. Your membership will ensure the expansion of the many research and educational programs.

Friends receive the Museum's newsletter, a discount at the Corner Cabinet, and other privileges including invitations to special events, openings, and tours of other museums in the area.

To become a Friend, make your tax deductible (in 1986) gift check to:

UIF/MNH Friends

Mail it to:

Museum of Natural History
320 NHB
1301 West Green Street
Urbana, Illinois 61801

The levels of membership are:

- | | |
|-------------------------------------|--------|
| <input type="checkbox"/> Benefactor | \$1000 |
| <input type="checkbox"/> Patron | \$500 |
| <input type="checkbox"/> Sponsor | \$100 |
| <input type="checkbox"/> Sustaining | \$50 |
| <input type="checkbox"/> Family | \$30 |
| <input type="checkbox"/> Individual | \$15 |
| <input type="checkbox"/> Student | \$5 |

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NEWS LETTER



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NEWSLETTER



UNIVERSITY OF ILLINOIS MUSEUM OF NATURAL HISTORY

Volume 1, Number 2

May 1987

Museum News

On the weekend of February 7 and 8, the Museum had a booth at Nature Expo, held at Marketplace Mall. Several of our friends, volunteers and staff, including Tom Ewing, Deanna Glosser, Charlie Keller, Carol Kubitz, Ray Lee, Bonnie Leathers, Christina Spolsky, Chuck Stout, and Ruth Wene, talked with shoppers about the Museum and its activities, and distributed brochures and newsletters.

During February also, the Krannert Art Museum provided us, on long-term loan, ten glass display cases. Two of these have already been incorporated into displays for the Corner Cabinet, and two more have been assembled for new special exhibits on bead work and the Tully Monster.

In April, we were notified that we were accepted in the Museum Assessment Program, run jointly by the American Association of Museums and the Institute of Museum Services. We hope to have a consultant in the Museum late in May or in June to help especially with long-term planning.

A Grandparents' Workshop was presented by the Museum's volunteers on 12 April. Those who attended were shown some of the exciting books and magazines on natural history available for children at the public libraries, and encouraged to use this wealth of material with their families. Examples of eminent men and women in science were given to show the importance of early childhood

influences. Registrants were shown some of the research collections, and provided with a packet of materials from other institutions in this region that offer programs in nature study and appreciation. The volunteers and participants discussed how to make a museum visit more productive. We distributed a small booklet designed to help new visitors to our museum focus on a few important highlights. Copies may be obtained from the Museum Office.

A drawing was held for the Smithsonian Book of North American Indians at the Grandparents' Workshop. Lori Foulke was the winner. Altogether, the Museum is \$47 closer to getting a mounted dinosaur cast, thanks to the many people who took a chance on winning this book.

The Museum is particularly busy this month, with a flood of school groups. A lot of activity also goes on behind the scenes. It's a time for writing proposals. We are particularly interested in support for the Museum's education program, and have been drawing together materials and ideas for a proposal, perhaps to the Hitachi Foundation, to develop this area.

A proposal was submitted on behalf of the Molecular Phylogeny Group, to the National Sciences Foundation's new Facilities Center Program. This is a joint project with several School of Life Sciences staff members who belong to a Center for Prokaryotic Genome Analysis.

From The Director



Directing the Museum of Natural History is only one of the jobs I took on when I came to the University of Illinois: I also have teaching and research responsibilities. I went to North Africa this past spring to collect samples of the frogs that I've been studying this past 15 years.

My Swiss colleague and I met in Zurich in early March. We drove southwest to the coast of France, then along the coast to the Strait of Gibraltar, which we crossed by ferry. These regions have a Mediterranean climate, with cold, wet winters and hot dry summers; it was most decidedly winter until we reached Morocco, and for a day or two thereafter, so we found no frogs in Spain and lost time in northern Morocco, but the weather improved as we drove south along the coast some 1500 kilometers (850 miles) in Morocco.

We collected samples of frogs in northern parts of Morocco, Algeria and Tunisia, but most of our effort was concentrated on animals living in oases. Driving along the roads through the desert, most (but not all) of which are paved, one passes miles of landscape with almost no plants: stoney deserts or sandy deserts, even great *ergs* (the moving sand hills and mountains) and at last comes to a town where there's abundant permanent water at the surface, and lots of frogs. Clearly the frogs have been there a long time, having gotten to these isolated places along once moist routes that no longer exist. Part of our study is to measure how much the oasis populations differ from each other genetically and to determine which of the populations in the more moist parts (usually associated with the Atlas Mountains) they are most like. We plan to use this information to trace the routes the frogs followed to the oases, and to estimate when these migrations occurred.

Our long-term goal, though, is to understand in molecular terms the strange patterns of inheritance shown by naturally-occurring hybrids between the European species of this group. Most of the edible frogs of Europe (*Rana esculenta*) are hybrids, but unlike mules, which are almost always sterile, these frogs reproduce quite well, usually making more hybrids like themselves. We know something of the patterns of inheritance, but the genetic and molecular quest is a long and hard one, and we'll work on it for years to come.

Thomas Uzzell

New Exhibits

Although plans are being made slowly for some major new exhibits, our limited space keeps us mostly planning and setting up smaller, special exhibits. Since mid-November, an exhibit on human origins has been in place in the third floor hall, near the Discovery Room. It focuses on the earliest known human ancestors, which already walked on two feet and made crude stone tools more than two million years ago in eastern Africa.

More special displays are being assembled. One will feature bead work from Plains Indians, Illinois Indians and from South Africa and will show something of the variety of uses for decorative beadwork. A second will present the "Tully Monster," a small invertebrate fossil found only in Illinois. It comes from marine sediments almost 300 million years old. Recently it has been proposed as a State Fossil. A third will exhibit amulets from the Ivory Coast in West Africa. These were collected recently by Alma Gottlieb of the Anthropology Department. Such amulets are used to guard the health and well-being of the newborn.

Two more exhibits, somewhat larger, are presently being planned for next spring: a display of photographs from the Museum's 1913 expedition (with the American Museum and the National Geographic Society) to look for Crockerland; and a display of eggs, with biological as well as cultural associations.

Cranial Reconstruction

Four busts of early humans are on display in the Museum's Hall of Animals as part of the display on primates and human evolution. These are casts; the original cranial reconstructions were prepared in the early 1900s by Emeritus Professor John C. McGregor of the Department of Anthropology at the University of Illinois-UC.

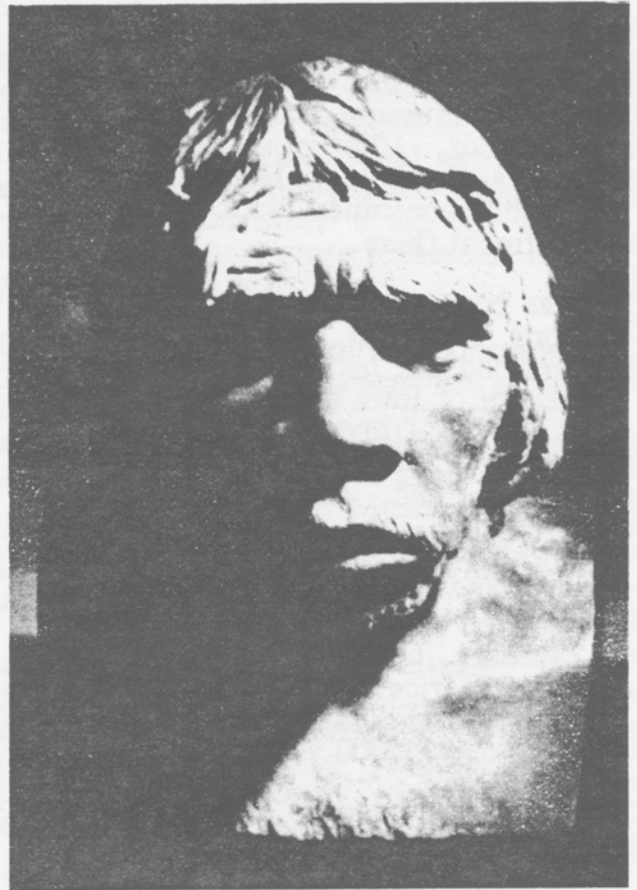
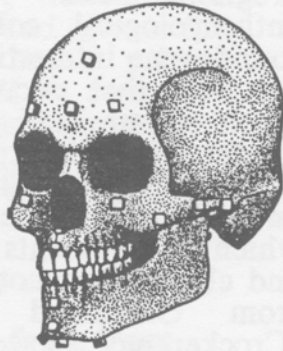
The busts were prepared by applying clay to reconstructed skull specimens of *Homo erectus*, *Homo sapiens neanderthalensis*, and *Homo sapiens sapiens*.

In the first step (top figure), small pieces of clay of specific thicknesses were placed on certain cranial "landmarks."

The clay pieces were connected by strips of clay to represent muscles of the face (middle and lower figures).

Finally, all spaces on the model were filled in and the eyes and hair were modelled (photo, right).

Since these scientific works of art were first produced, more sophisticated cranial reconstruction methods have been introduced, but most of the principles used in making our busts are still adhered to.



Homo sapiens neanderthalensis
Bust in the Museum of Natural History

Upcoming events:

5 November 1987

The Amazing Randi, noted magician and MacArthur Fellow, will give a Miller-Comm lecture in Foellinger Auditorium. There will be a reception for Randi at the Museum after his talk. Invitations with details will be sent in the Fall.

We have requested the use of the Illini Union Art Gallery for an exhibit during the spring of 1988. We plan to show a selection of photographs taken in northern Greenland by the 1913 "Crockerland" Expedition.

Curator of Anthropology

In January of this year, Charles Keller joined the museum staff on a half-time appointment. Charlie has been teaching in the Anthropology Department since 1967 and continues with a half-time appointment there.

He was born, raised, and began college in Long Beach in southern California. He finished his bachelor's degree at the University of Iowa and then did graduate work at the University of Missouri in Columbia. Subsequently he returned to California and did his Ph.D. in anthropology at the University of California, Berkeley where he specialized in African Prehistory. This research interest led to archaeological field work in Zambia, Tanzania, and the Republic of South Africa. Here he excavated at Pleistocene sites that were occupied some 200,000 to 300,000 years ago.

About 10 years ago he became interested in how living people use tools and organize their knowledge to produce something with those tools. To investigate some of these questions Charlie spent a sabbatical leave as an apprentice in a blacksmith's shop in Santa Fe, New Mexico, learning to do

ornamental iron work. He continues with his blacksmithing research and recently has been replicating 18th and 19th century tools for open-air museums and living history sites.

Here in the Museum he is writing proposals for off-campus support of our programs and working with the anthropological collections. He has found some interesting correspondence in the files that documents the fact that much of our Zuñi pottery was collected by the 1880-81 expedition led by John Wesley Powell. Charlie has also taught an anthropology class in the museum in which the students have been studying and classifying photographs and artifacts from Greenland collected by the "Crockerland" Expedition of 1913. The University of Illinois was one of the primary sponsors of the expedition. Next year he will offer similar classes working with other collections in the Museum.

This is the first time in more than 20 years that anthropology classes have been offered in the Museum. The interest shown by students is impressive, but enrollment is limited because of space constraints.



Women going to hunt little auks,

Crockerland Expedition

Can You Help?

Volunteer tour guides and Discovery Room staff receive many questions and requests for information from visitors. We are trying to collect a library of general reference books in natural history and in general biology and of field guides to help volunteers and visitors. If you have copies of such books that you no longer use, we would like to have them.

In the past year the Museum held several receptions so that people interested in the Museum could meet speakers whom the Museum helped sponsor. We have been short of several things such as vases, serving bowls and platters. Any extras that you have would be put to good use here during future social events.

A small, docile snake, perhaps a young corn or king snake, would be very useful to users of the Discovery Room.

Do you have special or first-hand knowledge of some area of natural history? Would you be willing to answer questions? We are compiling a list of resource people whom the staff may consult when out-of-the-ordinary questions arise. If you are willing to be included, please send us a card with your name, telephone number, and area of expertise; or call 333-2517 and give us the information. This will be a private Museum list, and you will be contacted only by a member of the Museum staff.

If you can help with any of these, call 333-2517.

Hand Carved Gourds from Peru

The art of gourd carving has a long history in Peru and other parts of Latin America. Designs and figures are carved into the surface of the gourd and then shaded with a burning "burilador" of eucalyptus wood. This process creates darkened areas to produce an illusion of shadow and depth.

The Corner Cabinet stocks a variety of these highly decorative and well-crafted gourds, ranging in size from 3½" to 5½". The popular *gourd boxes* are cut open at the top and hollowed out; the exteriors are elaborately carved with geometric designs and scenes from everyday life. These boxes frequently depict stories that are meaningful to the Peruvian craftsmen who produce them. The boxes are great for storing jewelry, spare change, or other knick-knacks.

Also popular with our patrons are *gourd people* and *gourd animals* including birds and cats. The choice of whether a person or specific animal is represented is often dictated by the natural shape of the gourd. These carved gourds, unlike the boxes, are not hollowed out; the interiors, with their seeds, remain intact. They are not merely decorative; they can also serve as rattles.

Come by the shop and see our selection of hand carved gourds as well as our other unusual and educational gift items.

Museum Lectures

Ideas are as important to a museum as are its collections. To promote the exchange and spread of ideas, we sponsor lectures. This is part of our educational activity. Since the Fall, the Museum has supported a series of lectures, some for the general public, others more technical, on topics related to its activities.

In November, the Museum co-sponsored a talk by Dr. Donald Johanson, Director of the Institute of Human Origins, on the remarkable early fossil relative of humans, known popularly as Lucy. The talk and reception in the Museum after the talk attracted people with both a specialized and a general interest in human evolution.

Research on parthenogenetic lizards in Australia and adjacent islands was the subject of Dr. Craig Moritz's December talk. Dr. Moritz has a post-doctoral position at the University of Michigan Museum of Zoology.

Dr. Frank Gill, Curator of Vertebrate Biology at the Academy of Natural Sciences in Philadelphia, talked about "Hummingbirds, Flowers and Energy" one cold night in January. The audience was warmed by the tropical nature of the subject. Dr. Gill's talk was a joint program for the Museum and the Champaign County Audubon Society.

"The Origin of the North American Prairie" was discussed by Dr. Greg Retallack in early February. Dr. Retallack, from the Department of Geology, University of Oregon, was on campus for a week.

And finally, in mid-February, Dr. Elizabeth Zimmer, Department of Biochemistry, Louisiana State University, spoke on "The Utility of Ribosomal Genes in Tracing Flowering Plant Evolution." Her talk was of particular interest to members of the Molecular Phylogeny Group, because the theme that originally brought the group together is the use of ribosomal genes in phylogenetic studies.

Most of these seminars were sponsored jointly with other units on campus.

Volunteers

Volunteers help in many ways. A small but dedicated crew staff the Museum's tour program. They have been especially busy this spring, partly because school groups always have spring field trips, but mainly because they've offered such splendid tours to groups for the past two years: their fame is spreading. Especial thanks to our tour guides and their helpers:

Sandra Batzli
Thomas Ewing
Carol Kubitz
Rosemarie Nelson
Mary Spelbring
Chuck Stout

Another group of volunteers has helped us keep the Discovery Room and the Corner Cabinet open during the middle of many days. Thanks to them, too:

Lori Foulke
Carol Lepzelter
Debbie Novak

Around the Museum, there are always more jobs to do than people to do them. Some of these are the visible jobs, like giving tours and working in the Corner Cabinet; others are behind-the-scenes, where collections are inventoried and specimens are numbered. All volunteers need is an interest in natural history and in the Museum. We can find projects for almost any background.

If you are interested in becoming a Museum volunteer, call the Museum office (333-2517) to arrange an appointment. At the meeting, we can find out what kinds of projects you would like to do and what your schedule is.



Carola Dahlmann

Carola Dahlmann has travelled a long way, with many interesting stops, before becoming our most recent volunteer. Carola grew up in Wuppertal, Germany, and later studied economics at the university there. She has a long record of volunteerism, beginning in Germany at the zoo in her home town and at a veterinarian's clinic. She recently left the Museum of the Rockies at Montana State University, where she worked with the Director of Education and the Head of Collections. Her volunteer duties here are numerous, primarily focusing on reorganizing and updating our collections records, especially the exhibits collections and some of the smaller research collections. We are happy she has brought her experience to this museum, where she will continue into the summer.

Museum Hours

The Museum of Natural History exhibit halls are open 8:00 AM to 5:00 PM Monday through Saturday except Labor

Day, Thanksgiving and the day after, Christmas through New Year's Day, Memorial Day, and the 4th of July.

Friends

Friends are an important part of the Museum, and our list of members has grown.

Sponsors:

Elaine and Allen Avner
Mr. & Mrs. Thomas Everhart

Sustaining:

David Batts
Dr. & Mrs. Daniel Blake

Family:

George and Sandra Batzli
Dr. Donna Beck
Mr. & Mrs. John K. Bouseman
William J. and Elaine F. Hall
Dr. & Mrs. Donald Henderson
Peter and Joan Hood
Mr. & Mrs. Francis Kruidenier
Dr. & Mrs. R. Weldon Larimore
Mr. & Mrs. Reid T. Milner
Andrea Morden-Moore
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Francis and Heather Young
Lorraine W. and Edwin A. Weber
Drs. Greg and Dixie Whitt

Individual:

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Mrs. Betty Crist
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Dr. Christina Spolsky
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Student:

Bonnie Leathers
Carol Lepzelter
Sara Jane Stake
Charles B. Stout
Jeannette Wyneken

Special categories:

Mary Nell McDaniel
Forest Glenn Nature Center

Sandra Batzli, Susan Bednar, Lori Foulke, Charles Keller, Carol Kubitz and Chuck Stout made this newsletter possible.

The Museum welcomes new members to its Friends group. Your membership will ensure the expansion of our many research and educational programs.

Friends receive the Museum's newsletter, a discount at the Corner Cabinet, and other privileges including invitations to special events, openings, and tours of other museums in the area.

To become a Friend, make your tax deductible (if you itemize) gift check to:

UIF/MNH Friends

Mail it to:

Museum of Natural History
320 NHB
1301 West Green Street
Urbana, Illinois 61801

The levels of membership are:

<input type="checkbox"/> Benefactor	\$1000
<input type="checkbox"/> Patron	\$500
<input type="checkbox"/> Sponsor	\$100
<input type="checkbox"/> Sustaining	\$50
<input type="checkbox"/> Family	\$30
<input type="checkbox"/> Individual	\$15
<input type="checkbox"/> Student	\$5

Name _____

Street Address _____

City _____ State _____ Zip _____

Thanks!

Many friends have helped the Museum since our last newsletter. In response to our request, magazines were brought for the Discovery Room by the following:

Dr. & Mrs. John Bardeen
Lindsay and Helen Black
Thomas E. Everhart
H. C. Henriksen
Joan and Peter Hood
Ingrid and Bruce Hutchings
Michael E. Irwin
Almut G. Jones
Larry Jones
Wallace E. Laberge
Ronald P. Larkin
Marian Martin
Mrs. J. C. Miles
Andrea Morden
Robert J. Novak
Mr. and Mrs. Fred Painter
Julian T. Sams
Patricia Schaeffer

Many others brought magazines also, sometimes anonymously, but sometimes we didn't write down the names. We thank all of you.

Mrs. Phillip W. Smith kindly brought us a copy of her late husband's book on "The Fishes of Illinois."

Lots of other things were also given to the Museum, many of which help the Discovery Room. We thank their donors too:

Sharon Baum
Doris Everhart
Deanna Glosser
Charles Keller
Roger Kirkwood
Dr. & Mrs. William H. Luckmann
Dr. & Mrs. Robert McCray &
David and Gary McCray
Edward Spevack
Warwick Young
The Francis Young family
The Illinois State Geological Survey



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NEWSLETTER



UNIVERSITY OF ILLINOIS MUSEUM OF NATURAL HISTORY

Volume 1, Number 3

December 1987

Museum News

The Museum has been bustling with activity this fall. In addition to mounting *The World of Etah* in the Illini Union Art Gallery and hiring two new curators of exhibits, we have been working on publicity and public programs, preparing tours, teaching courses, planning and preparing new exhibits, doing research and writing grant proposals.

Publicizing the Museum and its activities is an unending job. This fall, outside experts have twice offered us help. Mr. Arnold Rudnick of the Community Cable TV Project is helping the Museum reach a wider audience by preparing a special series on its programs and collections for broadcast on the cable-TV public access channel (10).

Mr. and Mrs. Bruce Crane of the Retired Senior Volunteer Program plan to work with the Museum staff to produce sound/slide shows that can be used both at area schools and in public places to make the public more aware of the Museum as well as for presentations to local citizens groups.

Guided tours are once again available, as time permits, to groups that make appointments at least two weeks in advance. Staff and volunteers have been preparing written tour pamphlets and training docents to give tours throughout the fall. Such education programs will be a main responsibility of Chuck Stout, one of our new staff members.

Teaching activity in the Museum is on the increase. Director Uzzell is teaching a course on biological systematics and evolution this fall. Curator of Anthropology Charlie Keller is teaching a museology course on caring for, studying, and exhibiting museum collections, again drawing on our large but unknown ethnographic collections.

Early this semester, some 200 pieces of Canelos Quichua traditional pottery from Ecuador were laid out in the Museum to be photographed and cataloged for the exhibit *From Myth to Creation* to be displayed at Krannert Art Museum this spring. The pottery was collected by Norman Whitten of the Department of Anthropology and Dorothea Whitten of the Center for Latin American Studies.

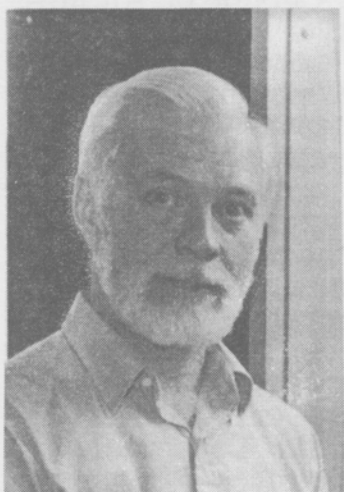
The University of Illinois Center for Molecular Phylogeny, sponsored by the Museum, has received part of a \$400,000 grant from the National Science Foundation as part of a new federal program aimed at maintaining the United States' current lead in biological technology. The grant will support phylogenetic study of many groups of organisms using molecular approaches. The Center includes specialists from geology, entomology, microbiology, and plant biology, among other disciplines, each of whom brings a somewhat different perspective to the research.

Last year, the Museum applied for and received a grant from the Museum

Assessment Program of the Institute of Museum Services (IMS) to support a survey of our facilities. We will be visited early this month by a museum consultant who will provide us with an evaluation of the Museum. This is an essential step in the long range development of the Museum.

IMS is an important source of support for America's museums. Recently we submitted our annual proposal for general operating support for 1988. The Museum is also applying to IMS for money to bring professional conservators here to survey our many collections to determine how they can be better cared for.

From The Director



Tom Uzzell

Biological collections in museums began as cabinets in which wealthy individuals tried to assemble and display one of each kind of animal or plant known, usually emphasizing the pretty ones: birds, shells, mammals. It was much later that public and private museums began to assemble collections of ani-

mals and plants to study their diversity and evolution: what kinds there are, where they live, how the kinds are related to one another.

Even before biologists became convinced that all living things arose, at the very beginning, from nonliving materials, and thereafter evolved from some common ancestor, it was possible to classify living organisms into related groups. Charles Darwin's theory of evolution provided an explanation of why this worked: organisms that shared a more recent common ancestor were more related in a genealogical sense, and therefore ought to be classified together.

During the past 200 years, our ideas about distinguishing kinds (or species, as we call them) and of grouping them in classifications that reflect their phylogeny have changed a great deal. Much thought and study has gone into stating as clearly as possible what species are. Powerful new techniques, many of them depending on biochemical study of proteins and nucleic acids, have been developed for studying phylogenetic relationships. And basic ideas about using traditional morphological features to reconstruct phylogeny have been reworked and spelled out in detail.

The best museums retain an understanding of the traditional questions (about the species and their relationships, and about the origins and significance of their diversity) and they cherish the collections used to study those traditional questions. But at the same time, these museums develop as strongly as possible their skills in modern biochemical, morphometric and computational methods for answering the questions. It would be sad, for example, to know in detail the phylogeny of some gene but have no idea about the kinds of organisms that had the gene through the course of time. To fill in pieces such as this requires the use of our traditional collections, a concern for the whole organism, not just its molecules.

The Museum of Natural History has both these old and new strengths. The collections of amphibians, mammals, molluscs and reptiles provide us with a firm basis for exploring the evolution of organisms, whereas the Molecular Phylogeny Group (now the Center for Molecular Phylogeny) provides support for molecular studies of phylogeny, both by the Museum's curators and by others. CMP activities have been supported by the university's Research Board and more recently by the National Science Foundation.

More on my mind, however, is a course that I'm teaching this fall in Systematics and Evolution, a course that focuses on the general principles, as we see them today, of studying the diverse kinds of organisms on the face of the earth and of determining their phylogenetic

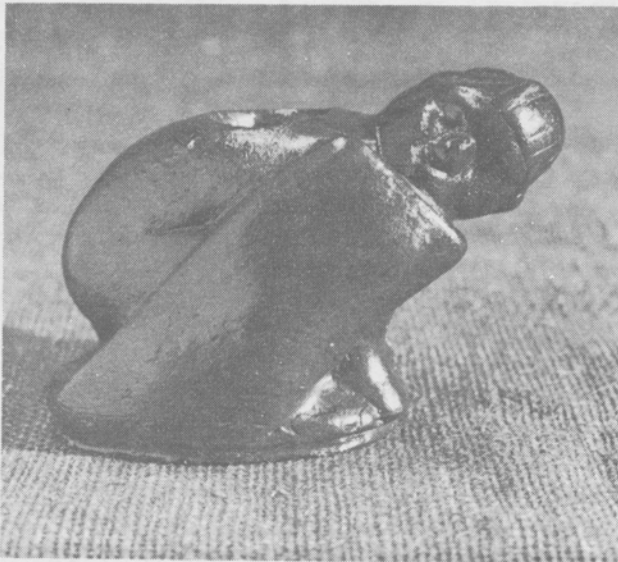
relationships. Ultimately, systematists want to provide a sound enough description of the species and their relationships so that all biologists interested in making comparisons among species will have a reliable framework within which to work.

It's an interesting course in an exciting and important field; a field in which there has been much excitement and turmoil this past three decades. It's a new course for me after years of research, and while it keeps me busy this fall, it's fun.

Thomas Uzzell

Unique Archaeological Specimens on Loan

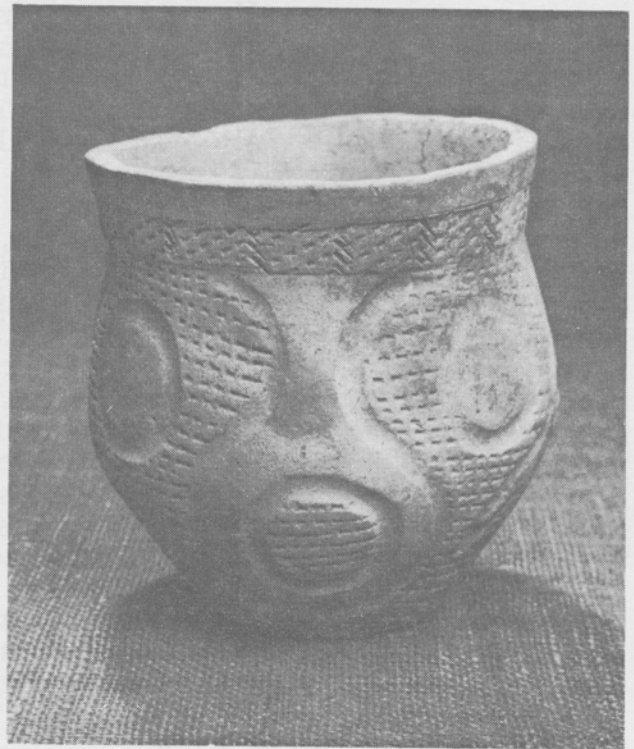
A number of the Museum's specimens are well known throughout the country. Two that have received a great deal of attention lately are the Guy Smith effigy pipe and a decorated ceramic jar, both from archaeological sites in Illinois. These specimens have been displayed by the Detroit Institute of Arts in conjunction with the National Gallery of Art in Washington, D.C., in their traveling exhibit "Ancient Art of the American Woodland Indians."



Guy Smith carved stone effigy pipe

The Guy Smith pipe, which gets its name from the site at which it was found, depicts a kneeling human figure

holding a shield. It was carved from a piece of dark bauxite by a pre-Columbian Indian craftsman, during what archaeologists call the Mississippi period (A.D. 900-1500). It lay for hundreds of years in the midden deposits of a Mississippian site in Jackson County, Illinois, until it was found on the surface of a plowed field in the early 1930s by Mr. Peter Stewart, a researcher from the University of Illinois. The pipe is one of only about two dozen carved bauxite pipes and figurines known from the eastern United States. It is currently on display at the St. Louis Art Museum.



Decorated Middle Woodland ceramic jar

The ceramic jar was recovered in 1941 by noted University of Illinois archaeologist Dr. A. R. Kelley, who extracted it from one of several mounds at a site in Mason County, Illinois. The jar's distinctive decoration is known as Havana-zoned, and consists of impressed designs filling large incised shapes all over the exterior vessel surface. This decorative style is one of several striking motifs that arose during the Middle Woodland period (500 B.C.-A.D. 300) of eastern North America. It is on display in the Hall of the Past.

Harry Henriksen Retires

Harry Henriksen, curator of exhibits from 1966 to 1987, retired at the end of September. Harry received his undergraduate and graduate training here at the University of Illinois, earning an M.A. in anthropology in 1957. That year, he replaced George Talbot as the museum's preparator; he served in that capacity until he became curator. In 1968, he served as acting director of the museum.

While curator of exhibits, Harry supervised the refurbishing of most of the museum's displays, and organized their routine maintenance. He added many permanent exhibits to the collection. In his last three years, he designed our modular display system, which has been used for both large and small special exhibits.

In addition to his exhibit responsibilities, Harry published articles on a variety of topics in the areas of museology and midwestern archaeology. He also served as consultant for projects including the National Education Association's *National Arts and the Handicapped* and the Speed Skating Hall of Fame and Museum. He has assisted in curating Olympics exhibits at the World Heritage Museum, and has helped it acquire artifacts for the Avery Brundage Olympic Collection.

The World of Etah

A photographic exhibit, "The World of Etah" was installed in the Art Gallery of the Illini Union during the first week of October, and ran through 31 October. The photographs were selected from among more than 4,000 prints made by the Crocker Land Expedition to arctic Greenland from 1913-1917. The expedition was sponsored in part by the University of Illinois. The majority of the photographs in the exhibit were ethnographic but we also included pictures of the flora and fauna, several of sled dogs and some general views to provide an overall impression of the arctic environment.

The exhibit was mounted in cooperation with the Department of Anthropology, which donated the services of David Minor, the departmental photographer. David made copy negatives of contact prints selected for the exhibit, and made enlargements from the negatives. This process improved the contrast and clarity of the originals, and produced a striking exhibit.

A reception in the gallery was jointly hosted by the Department of Anthropology and the MNH.

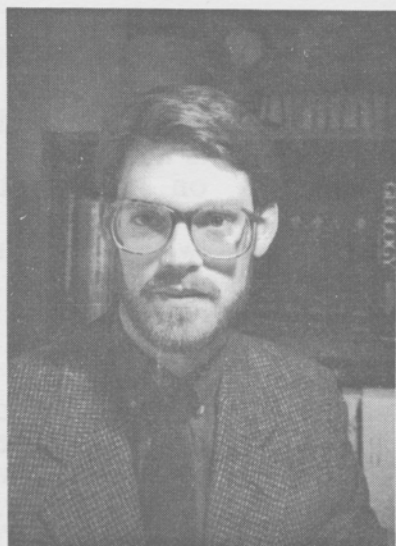
The exhibit involved a number of innovations for the Museum and we hope that many of these will become routine in the future. First, much of the basic organizing of the Crocker Land photographic file was done by students in Anthropology 296C, "Exploring Museum Resources," taught by Charles Keller during the spring semester of 1987. The students of another anthropology class, 398C, also taught by Charlie, helped install the exhibit. We hope to continue involving students in the Museum's activities because it provides them with a valuable experience to complement their more traditional classroom work.

Second, this is the first time in decades, and perhaps ever, that the Museum has mounted an exhibit outside of the Natural History Building. The number and size of the photographs (there were nearly forty 14" x 20" prints) required a larger amount of wall space than is available in the Museum proper, and the gallery in the Union provided the necessary facilities. We also felt that an exhibit in the Illini Union would reach an audience different from the one that usually comes into the Natural History Building.

Third, this is the first travelling exhibit produced by the Museum. Dr. Ann Mester, Curator of Anthropology of the University Museums at Illinois State University in Normal has asked to borrow the exhibit in 1988. The photographs and accompanying text will be on exhibit from 10 April through 15 August 1988 in the Ewing Museum of Nations on the Illinois State University campus.

New Curators of Exhibits

The Museum recently hired two new curators of exhibits: Chuck Stout, who began his appointment at the beginning of November; and Debra Kindervatter, who will join the staff in January.



Chuck Stout

Chuck brings with him seven years of graphic arts and museum experience. He has had several technical and scientific illustrations published and has been associated with museums in several capacities from exhibit research consultant to preparator while at Western Michigan University and here at the University of Illinois. Most recently, Chuck has been a teaching assistant and frequent volunteer at the Museum of Natural History while working toward his Ph.D. in anthropology.

Debra has an M.A. in museum studies from George Washington University and eleven years experience in the museum field. She has been interested in museums since childhood, and solidified this interest into a career choice, when as an undergraduate at the University of Maryland-College Park she founded a student art gallery that still functions today. Debra has worked at several museums in roles varying from consultant to curator, and has taught in a course of museum studies at Arizona State University. She is currently curator of exhibits and programs at the Museum of Anthropology at Arizona State University.



Debra
Kindervatter

The museum welcomes these new staff members with a weighty load of projects and high expectations. The new year should be an exciting challenge for them.

Charlie Hume's Exotic Wildlife

One former student at the Museum of Natural History has put his mammalogy training to excellent use. Charles Hume, who earned a master's degree at UIUC, runs a ranch near Marengo, Illinois, on which he raises deer, zebras, two kinds of camels, and lots and lots of llamas.

These animals are raised partly for the love of it and partly for business: many of them are sold to zoos and parks, providing them with valuable display

animals while not removing additional individuals from their natural habitats. During the 1960s, Charlie Hume was an outstanding aviculturist, and was raising two different varieties of the very rare copper pheasant.

Tours of Charlie Hume's farm are not available, but if you're driving the back roads of Marengo County, you may see strange animals for Illinois. Trust your eyes; they're really there.

Award Winner

Director Emeritus Donald Hoffmeister was recently named the 1987 recipient of the Hartley H. T. Jackson Award for long and outstanding service to the American Society of Mammalogists (ASM). Since Dr. Hoffmeister became a member of this organization in 1937, he has held the offices of president, vice-president, and secretary; has sat on nine ASM committees; and continues to be a member of the ASM Board of Directors.

Dr. Hoffmeister earned his B.A., M.A., and Ph.D. degrees at the University of California, Berkeley. He was an assistant professor at the University of Kansas for two years before arriving at the University of Illinois in 1946. He became the curator of the Museum of Natural History in 1948, a position changed to director in 1964.

Dr. Hoffmeister's commitment to teaching and research has benefited the study of mammals. In the course of his career, he trained 14 Ph.D. and 18 master's students in mammalogy. He has authored or co-authored more than 120 articles and books based on original research, his most recent volume the handsome *Mammals of Arizona*.

It's a pleasure to note Dr. Hoffmeister's receipt of this well-deserved recognition.

The Return of the Pleistocene Molluscs

The Frank Collins Baker collection of Pleistocene Molluscs has returned to the Museum. For the past three decades this important collection has been situated at the State Geological Survey in Champaign. The collection includes nearly 4,600 cataloged lots of terrestrial and freshwater snails and freshwater clams, including a number of type specimens.

The Museum's collection of Recent mollusks was also accumulated by Dr. Baker, so it is appropriate that these complementary collections be housed together and made available to malacologists.

Museum Lectures

The Museum has helped bring two lecturers to the university this fall; one an authority on preservation of native Illinois prairie species, and the other concerned with the duping of large segments of the American public by charlatan psychics and healers.

In early October, the Museum joined with Grand Prairie Friends to sponsor a slide lecture by Mr. Steven Packard of the Nature Conservancy entitled "Restoring Native Prairie Landscapes." Included in Mr. Packard's talk was a look at his successful landscape preservation and restoration activities in Cook and Lee counties of northern Illinois. The talk and subsequent museum reception attracted many people with both a specialized and a general interest in the history and preservation of the prairies of the midwestern United States.

A few days after Halloween, the Museum sponsored, with other campus units, a "magical" presentation by James Randi, "The Amazing Randi," renowned magician, author, and investigator of alleged psychic phenomena. His lecture "Science and the Paranormal" was aimed at debunking and exposing fraudulent psychic claims. Mr. Randi previewed his talk at a museum reception with anecdotes about his experiences with some shiftless practitioners of sleight of hand.

Three of Mr. Randi's recent books were on sale at the reception and are available in the Corner Cabinet while quantities last. Titles include: *The Truth About Uri Geller* (paper \$11.95); *Flim Flam* (paper \$11.95); and *The Faith Healers* (cloth \$18.95).

The Corner Cabinet

At the Museum of Natural History

Are you looking for an unusual holiday gift for that person who has everything or for the friend with discriminating taste? The gift shop at the University of Illinois Museum of Natural History has a variety of unusual items for holiday gifts, including books, wildlife prints and Indian artwork.

Dinosaurs - models of your favorite prehistoric reptiles in various sizes from the British Museum of Natural History and the Royal Ontario Museum; also bones, pins and puzzles. Collect them for your kids--or yourself. Pins \$1.00; other Dino delights from \$.60 to \$11.00.

Books - Numerous titles explore animals and plants of Illinois and other parts of the world; others focus on Indians of Illinois and how they once lived. Books by James Randi (the Amazing Randi) examine claims of paranormal phenomena. Books for children and adults priced from \$1.00 to \$55.00.

Contemporary American Indian art - Brilliantly painted birds and crocodiles, carved from balsa wood. Pottery bowls painted to show legendary water spirits and glazed with vegetable gum. These pieces are produced by the Canelos Quechua Indians of eastern Ecuador. 75% of the purchase price is a tax-deductible donation to the Sacha Runa Foundation, which pays medical expenses for the artisans. Prices range from \$5.50 to \$55.00 each.

Prints of Richard Sloan's State Birds of the United States - The same exquisitely painted birds that were shown in the Museum's exhibit, "America's Favorites." Most are available in the 11"x 14" size (\$15.00 to \$25.00 each); a few in the larger 22"x 28" size (\$50.00 each).

Glazed tiles - Decals of several species of birds and fishes and a variety of breeds of dogs fired on 5" square English tiles (\$4.50 each).

Note cards - Four kinds of mammals, drawn by Beverly Sanderson, grace these unusual note cards (\$3.50 per package). A perfect gift for anyone. These same figures are also available as 8½"x 11" prints (\$3.00 each).

Nature boxes - clear plastic boxes with magnifying glass lids for collecting small objects from nature such as insects and that special pebble.

Ethnic jewelry - Guatemalan wedding chains of silver on copper; brightly colored Maasai bead bracelets and necklaces from Kenya; seed necklaces from Ecuador; and more. Prices from \$1.60 to \$50.00.

Some of these items are on display outside the Hall of Animals on the third floor of the Natural History Building, 1301 West Green Street, Urbana. They may be purchased when the Discovery Room is open--or when it's not, come up to the Director's Office (room 438) on the 4th floor inside the Museum Monday through Friday, 8:00 am - 5:00 pm. For information call (217) 333-1149 or 333-2517.

Friends of the Museum receive a 10% discount at The Corner Cabinet.

State Bird Prints
Paintings by Richard Sloan

<i>Bird</i>	<i>State</i>
Common Loon	Minnesota
Purple Finch	New Hampshire
Black-Capped Chickadee	Maine, Massachusetts
Eastern Bluebird	Missouri, New York
American Goldfinch	Iowa, New Jersey
Willow Goldfinch	Washington
Mountain Bluebird	Idaho, Nevada
Roadrunner	New Mexico
Scissor-Tailed Flycatcher	Oklahoma
Ruffed Grouse	Pennsylvania
Rhode Island Red	Rhode Island
Cardinal	Illinois, Indiana, Kentucky, Ohio, North Carolina, Virginia, West Virginia
Western Meadowlark	Kansas, Montana, Nebraska, North Dakota, Oregon, Wyoming
Mockingbird	Arkansas, Florida, Mississippi, Tennessee, Texas
Robin	Connecticut, Michigan, Wisconsin
Ring-Necked Pheasant	South Dakota
Carolina Wren	South Carolina
California Gull	Utah
Hermit Thrush	Vermont
Yellow-Shafted Flicker	Alabama
Cactus Wren	Arizona
Willow Ptarmigan	Alaska
California Quail	California
Nene	Hawaii
Baltimore Oriole	Maryland
Brown Pelican	Louisiana
Brown Thrasher	Georgia
Lark Bunting	Colorado

LAS Annual Development Fund

We would like to thank those who have generously supported the Museum through their contributions to the Liberal Arts & Sciences Annual Development Fund during the past few years:

Mrs. Dorothy O. Somers Baker
Dr. Michael L. Griffin, M.D.
Mr. Wesley Matthew Heyduck
Ms. Nancy Roth Hines
Ms. Harriet Mary Jarosz
Mr. Phillip E. Jordan
Mr. Charles D. Keyes
Mrs. Frances Caldwell Kiser
Ms. Mary B. Liss
Ms. Jane D. McDonald
Mrs. Margaret Martling
Mrs. Beverly Bayless Mullen
Mr. Robert Allen Page
Ms. Debra L. Schoenecker
Ms. Catherine Grace Wanat

Museum Research Associates

The Museum has instituted a category of honorary appointments to be filled by individuals who will bring both service and honor to the Museum through their scholarly use of its research collections.

At present, the Museum has two research associates. Dr. William Severinghaus of the Environmental Division U.S.A.-CERL has been appointed to continue his mammalogical research using the Museum's collection. Dr. Severinghaus received his doctoral training at the University of Illinois under Director Emeritus Donald Hoffmeister. In the eleven years since he graduated, Dr. Severinghaus has produced over 60 reports and publications in areas related to ecology, land management, and zoology, and has served as a reviewer of professional journals in these fields.

Dr. Donald Mikulic of the State Geological Survey Division has been appointed to survey and inventory the Museum's invertebrate paleontology collection and take measures to increase its research accessibility and ensure its proper

storage. Dr. Mikulic is a member of a number of professional organizations including the Geological Curators' Group, the only organization dealing specifically with geological collections. He has helped curate, catalog, and identify geological specimens at several notable institutions, including the Chicago Academy of Science, the Field Museum of Natural History, and the National Museum of Natural History, among others.

Friends

The Museum welcomes new members to its Friends group. Your membership will ensure the expansion of our many research and educational programs.

Friends receive the Museum's newsletter, a discount at the Corner Cabinet, and other privileges including invitations to special events, openings, and tours of other museums in the area.

To become a Friend, make your tax deductible (if you itemize) gift check to:

UIF/MNH Friends

Mail it to the Museum in the envelope inside the newsletter.

The levels of membership are:

Benefactor	\$1000
Patron	\$500
Sponsor	\$100
Sustaining	\$50
Family	\$30
Individual	\$15
Student	\$5

Sustaining Friends receive one of Beverly Sanderson's prints of Illinois mammals: bobcat, mink, opossum or otter.

Sponsors, Patrons and Benefactors receive a print of a state bird by Richard Sloan. You can choose your state, or you can come by and choose a print (we always like to see our friends.)

THANKS

Support for the Museum comes in many forms. For things they have given to the Museum we particularly thank:

Tony Bette
David Bohlen
Dan and Harold Grunloh
B. Gail Mullen
Randy Stillwell
J. L. Wade

And for their time and help:

Tom Ewing
Lori Foulke
Deanna Glosser
Mary Gramsas
Carol Kubitz
Carol Lepzelter
Debbie Novak
Bob Payne
Rich Poskin
Mina Tynan

Museum Hours

The Museum of Natural History exhibit halls are open 8:00 AM to 5:00 PM Monday through Saturday except Labor Day, Thanksgiving and the day after, Christmas through New Year's Day, Memorial Day, and the 4th of July.

Susan Bednar, Charles Keller, Carol Kubitz, David Minor, and Chuck Stout made this newsletter possible.

The Newsletter is published by the Museum of Natural History of the University of Illinois at Urbana-Champaign. Thomas Uzzell, Editor



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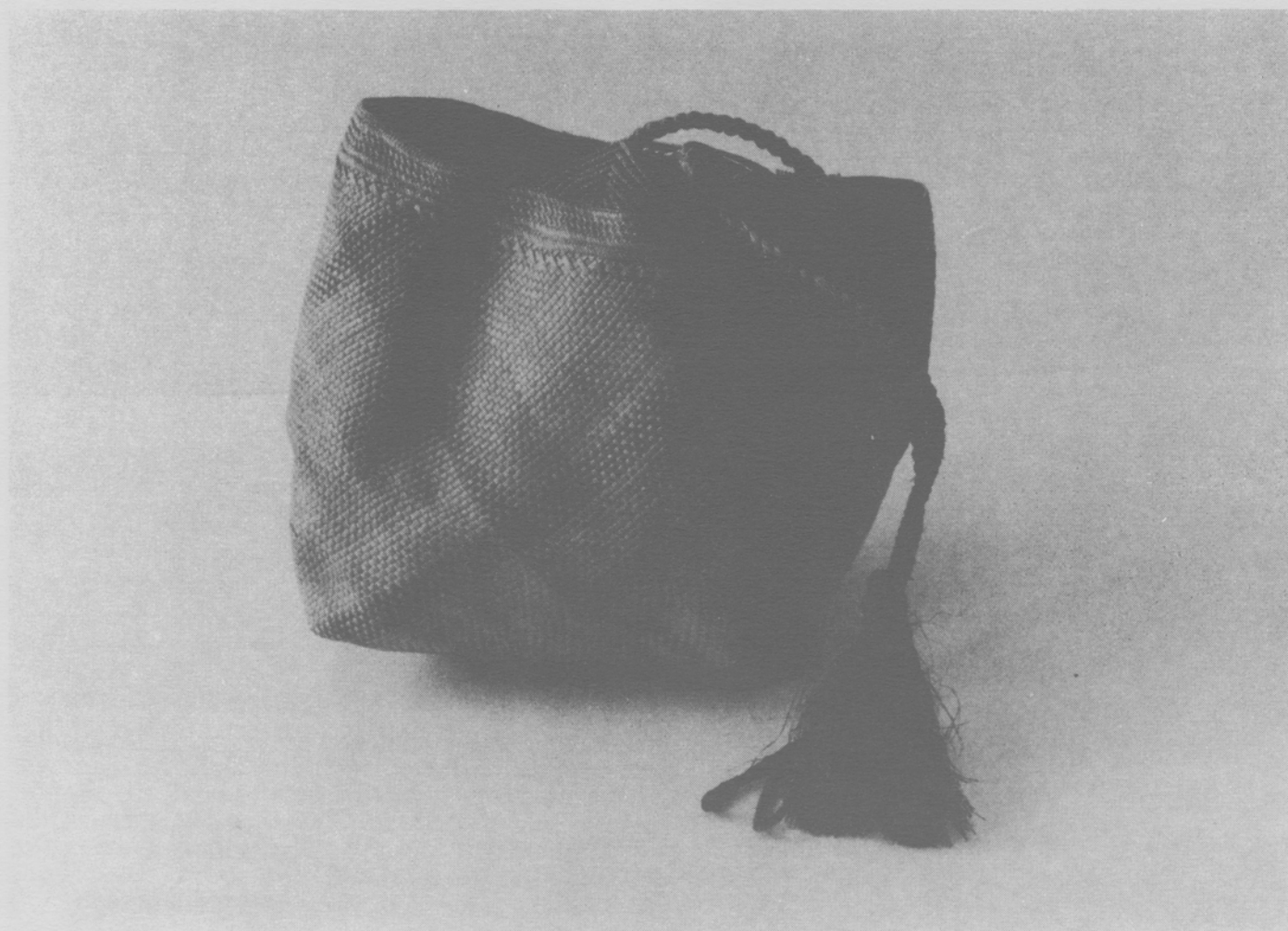
Museum of Natural History NEWSLETTER

University of Illinois at Urbana-Champaign



Volume 1, Number 4

May 1988



Baskets Hold Key to Past Museum Records

Students in an anthropology/museology course taught by Curator of Anthropology Charles Keller this semester have been studying groups of woven objects exhibiting a range of basketry techniques. The students' task is to describe each object and complete an analysis form that records how the object was made. Items of unknown ethnographic origin are identified as

closely as possible by comparison with published photographs and descriptions of similar objects and are checked against the Museum's 19th and early 20th-century cataloging.

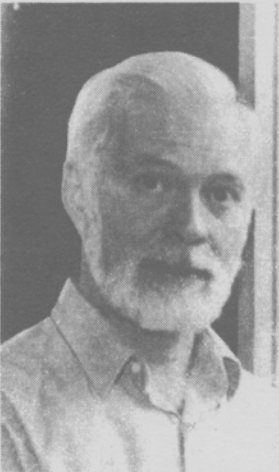
Janet Keller, a Department of Anthropology faculty member who is auditing the course, is describing some basketry bags collected this



Charles Keller (center), with students Bob Payne and Barb Ulrich, examining the Museum's basketry collection.

past summer during her fieldwork on the island of Futuna in the South Pacific. Futuna is a member of the island nation Vanuatu, formerly called the New Hebrides. The particular kind of bag Janet is studying was popular in the 19th century and is becoming one of Vanuatu's national symbols.

From the Director



This is our fourth newsletter. We plan to continue at two issues per year until our staff and our budget grow enough to sustain a larger number. Look for changes!

Universities have natural history museums because of their research programs and to train students, both graduate and undergraduate. When the museums have public

displays, as this one does, then there are additional opportunities and responsibilities for educating and informing the public as well.

Most of my efforts this year have been aimed at developing the research programs of the Museum. The University of Illinois has on its campus numerous collections and associated research programs that could well be joined together in a comprehensive Museum of Natural History. Such a restructuring would make the Museum a more integral part of the academic life here on the campus. It would also provide

strength and on-going support for the collections and their programs, as well as providing an increased opportunity for interactions between staff members in several LAS departments. To me it looks like a move in which everyone wins and no one loses.

Regardless of the restructuring, however, both the public and academic parts of the Museum would prosper by greater support, and I have put considerable time into gathering together a list of alumni who might take particular interest in the Museum and wish to support it with designated gifts through the LAS Annual Development Fund. These alumni have been identified largely with the help of Don Hoffmeister, Director Emeritus, and Hobart Smith of the University of Colorado; both have my warmest thanks. Each of these scholars has been important in developing the Museum's research collections and for training many students who have gone on to become noted mammalogists or herpetologists. Each also had many other students, both undergraduate and graduate, who took their courses. We call these our "Museum Alumni."

It's a pleasure to me to send a copy of this newsletter to as many of these "Museum Alumni" as I can find. I hope that each of them finds some joy in remembering the Museum. Many of these alumni already support the University of Illinois through the LAS Annual Development Fund. I hope that, because of this newsletter, even more of them will. Those alumni who want to support the Museum of Natural History through the LAS Annual Development Fund are encouraged to designate part or all of their contributions for the Museum of Natural History.

Thomas Uzzell

New Archaeology Exhibit Coming

A new exhibit on the life ways of prehistoric peoples of the midwestern United States will begin installation this summer and will open in mid-October. So far, support has come in the form of a grant from the Illinois Humanities Council and personnel, expertise, and funds from the Department of Anthropology.

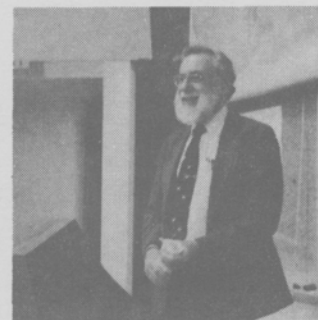
Notable

Director Emeritus Donald F. Hoffmeister was recently elected a Fellow of the Arizona-Nevada Academy of Science for "outstanding contributions to science and continued support of the academy." He has published over 35 articles on the mammals of Arizona, culminating with his *Mammals of Arizona*, published last year by the University of Arizona Press.

Events



Pictured clockwise from left: Vera Samycia demonstrating methods of traditional Ukrainian Easter egg decorating; Dr. Ulysses S. Seal talking about the need to propagate endangered species; Penny and Don McKinney showing how to prepare a trophy head.



The year had an eventful beginning. *The Living Room*, an experimental exhibit for children of all ages, opened with a reception on 21 February. Since then, this exhibit has attracted an estimated 2,000 weekend visitors.

How do you like your Eggs?, our special exhibit contrasting the varied coloring and sizes of birds' eggs mostly from North American species with intricately-decorated Ukrainian Easter eggs, opened with a reception on 20 March and ran through 15 April. Most of the natural eggs were loaned by the Illinois Natural History Survey, but the ostrich egg came from George Keifer. The Ukrainian eggs came from the Ukrainian Museum in New York City. On 10 April, Vera Samycia came from Chicago to demonstrate methods of traditional Ukrainian Easter egg decorating.

Ulysses S. Seal, of the Departments of Wildlife and Ecology at the University of Minnesota, met with students and faculty and gave talks on the science and politics of endangered species when he visited 5-6 April. His evening talk was followed by a reception in the Museum.

On Sunday, 24 April, Don and Penny McKinney gave a demonstration on taxidermy at a reception for Museum Friends. They brought with them an array of tools and special mounting forms, a few finished trophy mounts, and several skins (some fresh and some tanned) ready to be stretched over and affixed to the mounting forms.



Reaching Out

Our special outreach case has been on exhibit since February at the public libraries in Champaign, Urbana and Philo, with a combined audience estimated at over 50,000. At the Illini Union, it was seen by 250 alumni on University Day (27 April). It is scheduled for month-long visits through July at libraries in Rantoul, Mahomet and Danville.

Two cable television programs made to complement exhibits *The World of Etah* and *The Living Room* were aired in February and are available at the Champaign Public Library.

Voices from the Museum: An Oral Historian Needed

The College of Liberal Arts and Sciences will celebrate its 75th anniversary during the next academic year. As part of the Museum's participation in the event, we would like to compile an oral history of the Museum.

Several individuals prominent in the history of the Museum since World War II should be

interviewed. Don Hoffmeister, the former Director and Curator of Mammals, was responsible for the enormous growth of the Museum's mammal collection. Harry Henriksen was Curator of Exhibits for almost 35 years. Both of these individuals live in Champaign. We also hope to include Hobart Smith, who, with his students, built the Museum's collec-

tion of amphibians and reptiles between 1947 and 1968.

Collecting oral history is more complex than simply turning on a tape recorder. A knowledge of the subject matter, a familiarity with ways to elicit full, rich responses and a thorough preparation for each interview session are all required.

We would like to find a volunteer who has a background in biology or experience with oral history *or both* to carry out this project during the Fall semester. The Museum will provide equipment and arrange for transcription of the interviews. We need someone to conduct the interviews and edit the transcribed material.

Final arrangements need to be made soon. Anyone interested should contact Thomas Uzzell at 333-2517.

Past Technology Studied

A new research project has brought an additional computer and a half-time research assistant to the Museum. In February, the University Research Board provided support to Charles Keller to analyze the ledger of a 19th-century blacksmith who worked in Newman, Illinois. A second Research Board grant will allow the project to continue through the end of 1988.

The blacksmith, Ignatius Streibich, was born in Germany in 1834, emigrated to Illinois in 1851, and opened his shop in Newman in 1869. The ledger covers the years 1869 to 1877 and remained in the building where Streibich worked until it was found in the 1970s by the building's present owners. Entries include dates, names of the customers, kinds of work, and prices, as well as records of purchases of coal, iron and food.



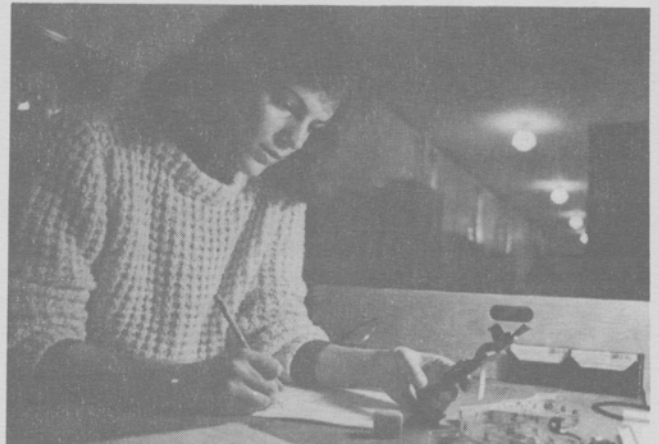
Charles Keller doing applied research in his blacksmith shop.

Among the project's objectives are documenting the kinds of jobs done by a rural blacksmith, patterns in seasonality of his work, changes in the kinds of work he needed to do over the years covered by the ledger, and the amount of repair work he did compared with other kinds of activities.

Much can be learned about the impact of technological change on individuals and societies through studies of such documents. For instance, during the years 1869-1877, horse-drawn mechanized farm equipment began to appear in the area and many of Streibich's repairs reflect the problems of these early machines and how important the machines had already become in modernizing farming.

Ethnographic Inventory

The Museum's ethnographic collection was begun at least as early as 1882 with the donation of southwestern native American artifacts by the U.S. Geological Survey. In fact, with the exception of the artifacts from Greenland collected by the Crocker Land Expedition of 1913-1918, all of our ethnographic materials have come to the Museum as donations. In past years, when the staff was much smaller, cataloging did not keep pace with donations.



Kathy Bode at work with the anthropological collections.

In order to determine exactly what the ethnography collection contains and what condition it is in, two of our volunteers, Amy Weir and Kathy Bode, have been making an inventory of it this semester. In all, they have filled out inventory forms on more than 600 artifacts and reorganized them in their storage cabinet. At the same time, Karen Rausert has examined and cleaned many of our ethnographic textiles and wrapped them to prevent deterioration. These have been time-consuming tasks, but are necessary first steps for establishing modern collections management procedures for this unique collection.

Help from Our Friends

Many individuals support the Museum as members of our growing Friends group. Others designate their contributions to the LAS Annual Development Fund for the Museum.

We thank you all. Such support always helps, and is especially important in these times of lean funding.

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Ms. Vicki Weiss
Ms. Jeanette Wyneken

Thanks to Museum Assistants

The Museum offers many programs, but few would be possible without the students and other individuals who help with collections, exhibits, education, and publicity. We wish to acknowledge the following people for their invaluable time and energy:

Volunteers

Emily Cremeens: exhibits, collections, receptions
Katy Desulis: Living Room
Tom Ewing: education, Nature Expo
Wendy Grethen: exhibit research
Carol Heise: tours
Joanne Kluessendorf: gift shop, exhibits
Carol Anne Kubitz: tours
Bonnie Leathers: Nature Expo
Carol Lepzelter: Living Room, tours, gift shop, receptions, Nature Expo
Rich Poskin: Living Room, gift shop
Carlos Quesada: receptions
Karen Saddler: exhibits

Emily Schnabl: Nature Expo, Living Room
Mary Severinghaus: tours, tarantula consultant
Kirsten Skiler: Living Room, gift shop, tours, receptions
Dennis Smith: exhibits
Pam White: Living Room, gift shop
Andi Witczak: graphic design
Leslie Wygert: Living Room, education, gift shop

Interns

Kathy Bode: collections
Susan Byttner: development, publicity, receptions, Living Room
Karin Rausert: textile collection
Barb Ulrich: collections
Amy Weir: collections

Graduate Assistants

Paul Benson: research
Perry Draper: collections
Judi Groen: education, exhibit research

Peter Soboroff: collections

Work-study Students

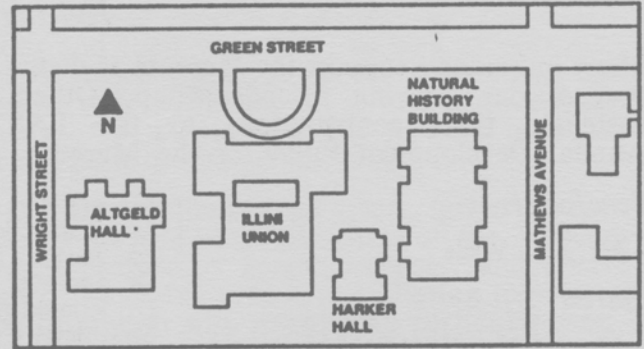
Debbie Novak: gift shop, Living Room, receptions
Jim Tooley: exhibits
Ron Weszelits: exhibits, receptions

Golden Guide Winners

Winners of the *Living Room* "Name the Animal Contest" are Abbie Miller (Charlotte the tarantula), Deb Quick (Bwana the African clawed frog) and Seredy Masar (Heidi the toad). These winners will have their choice of one of eight *Golden Guides* available at the *Museum Shop*: birds, butterflies and moths, fishes, flowers, mammals, reptiles, rocks and minerals, and trees.

Visiting the Museum

The Museum of Natural History galleries are located on the third and fourth floors of the Natural History Building, 1301 West Green Street, Urbana. These galleries are open 9:00 AM to 5:00 PM Monday through Saturday, 2:00 to 5:00 PM Sunday, except for official University holidays, including Labor Day, Thanksgiving and the day after, Christmas and New Year's Day, Memorial Day, and Independence Day. Other exhibits are located throughout the building's hallways. Summer



Living Room hours will be posted in June.

When coming from out of town to visit the Museum, exit Interstate 74 at Lincoln Avenue, go south to Green Street, then west on Green Street to Mathews Avenue. Metered parking is available on Mathews Avenue. There is also metered parking in a municipal lot near the corner of Green Street and Sixth Street in campustown and beneath Krannert Center for the Performing Arts (enter the lower level ramp from Illinois Street).

Susan Bednar, Charles Keller, Debra Kindervatter, Carol Kubitz, David Minor, Charles Stout, and Andi Wytchak made this Newsletter possible.

The Newsletter is published by the Museum of Natural History of the University of Illinois at Urbana-Champaign. Thomas Uzzell, Editor

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438 Natural History Building
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Museum of Natural History NEWSLETTER

University of Illinois at Urbana-Champaign

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JUN 22 1991

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Volume 1, Number 5

December 1988

Updating the Hall of the Past

The Museum's new exhibit "Ancient Midwestern Lifeways," located in the fourth floor gallery, the Hall of the Past, opened this past October with much celebration. The exhibit opening corresponded to the 60th annual meeting of the Midwest Archaeology Conference hosted by the Department of Anthropology and sponsored, in part, by the Miller Committee. A special opening for Museum Friends and other supporters 13 October was followed 14 October by a packed reception for archaeologists attending the conference.

Charlie Keller's course, "Archaeology and the Museum" (Anthropology 398), helped prepare, publicize, and evaluate the exhibit, and "catered" the opening receptions. Many other individuals also donated their time and expertise to this project.

The installation of "Lifeways" and the reorganization of the Hall of the Past mark a major step in a systematic plan to upgrade exhibits and galleries throughout the Museum.

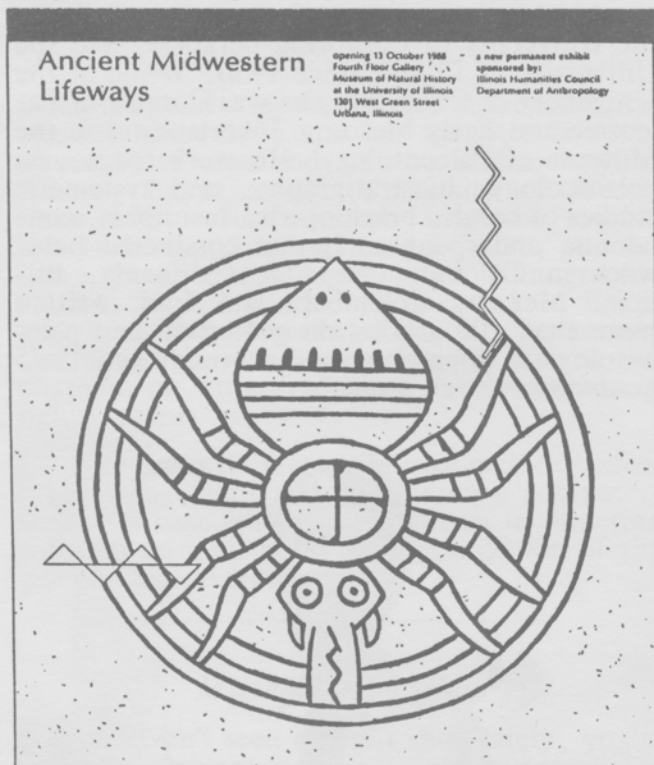
Collections Nationally Ranked

As part of a study for the National Science Foundation, the Association of Systematics Collections has surveyed many natural history collections in both free-standing and university-associated museums throughout the United States. The collections at the University of Illinois, including those in the Geology and Plant Biology departments, are impressively strong, judged by the responses obtained by ASC. Six of the University's significant natural history collections (amphibians and reptiles, coal balls, herbarium, invertebrate fossils, mammals, and mollusks) rank among the top ten university collections in the nation; five rank among the top five. The University's coal ball collection is the best in the world.

Changes in the Geology Exhibits

As part of the Museum's increasing cooperation with the Department of Geology, we have begun to revise and rework our various geological exhibits in the Natural History Building.

This began with the rearrangement of our paleontological displays in the Hall of the Past, which coincided with the installation of "Ancient Midwestern Lifeways." Another step was taken in providing new background and text for the Museum's cast of *Plesiosaurus comp-toni*, mounted in the second floor corridor.



Poster for the opening of Ancient Midwestern Lifeways: spider motif from a Mississippian gorget recovered from southern Illinois (original two-color design by Andi Witczak).

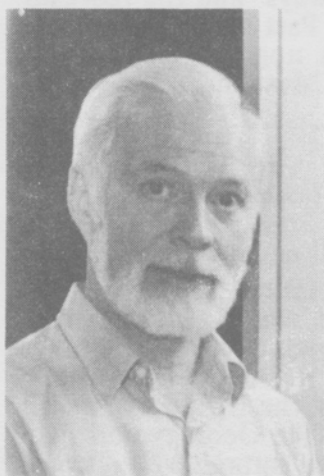
Awards from the Illinois Humanities Council and the University of Illinois Department of Anthropology helped the exhibit. Students in

The bases for the *Dinotherium* and *Mastodon* skull casts have also been painted and text will be added. A new display featuring the Tully monster, *Tullimonstrum gregarium*, is ready and should be in place by the New Year.

We have also begun to write text and draw plans for new mineralogy and sedimentology displays. The new exhibit will provide more information about the mineral and rock specimens displayed. A donation of minerals, by Mrs. Eleise Henry, showing interesting mineralogical processes will contribute to this display.

A handsome specimen of fluorite, donated to the Department of Geology by alumnus Robert H. Kennedy is on temporary display in the third floor gallery.

From the Director



The past six months at the Museum have been especially busy. Our major undertaking was to change the exhibits in the Hall of the Past, where "Ancient Mid-western Lifeways," the first major exhibit of my time as director, opened in mid-October.

I've spent much time trying to strengthen the Museum in all its aspects. Particularly, I've worked hard to build bridges to University departments that seem like natural allies for the Museum: not only our home department (Ecology, Ethology, and Evolution), but three other departments that have research collections (Anthropology, Geology, and Plant Biology). The advantages of fuller cooperation seem obvious, and as a result, the Museum's research staff has grown and two new curators have joined our staff. Cooperation is a two-way street. This fall, using money supplied by the Institute of Museum Services, we had two professional conservators visit both the Museum's collections and those in the Anthropology, Geology, and Plant Biology departments as well. The conservators' reports are due in December, and will help the Museum prepare additional conservation proposals to the Institute of Museum Services that will strengthen all of these collections.

Cooperation with the Department of Geology has been especially gratifying. In addition to a half-time curator, this department has provided us with a part-time teaching assistant who is also a strong volunteer. As a result,

many small changes are appearing in our geology exhibits, and many students in geology are now working in the Museum as volunteers and work-study students.

We're continuing to search for individuals in the University, the local community, in the state, and farther afield who are interested in the Museum and its programs. In this we've drawn partly on local organizations that share some of our goals or with which we take pleasure in sponsoring joint events; we've also looked for individuals whose professional activities suggest that they might like to know about our programs. Many of you, therefore, will be receiving the Museum newsletter for the first time. We hope that you enjoy it.

Thomas Uzzell

New Curators

Two new curators joined the Museum staff this fall, Dr. Ralph L. Langenheim, Jr., as Curator of Fossil Invertebrates, and Dr. Doug Brewer, as Curator of Ethnobiology.

Ralph has conducted and directed research and taught courses in paleontology at Coe College, the University of California-Berkeley, and the University of Illinois since 1950. While at the University of California, he was Curator of Paleozoic and Early Mesozoic Invertebrates in the Museum of Paleontology. His work focuses on paleoecology, biostratigraphy, and systematic studies of corals, brachiopods, fusulinids, conodonts, and sponges. He has conducted fieldwork in Colorado, Nevada, California, Illinois, Mexico, Colombia, and Iran; written more than 100 articles on geological and paleontological topics; and supervised about 75 graduate research projects.



Ralph Langenheim

Ralph plans to improve curation of the University's fossil invertebrate collections, organize Museum-related field excursions, and conduct research on Illinois Pennsylvanian invertebrate fauna of Illinois.



Doug Brewer

Doug has conducted or directed ethnozoological research since 1976 and has taught courses in this subject area and on the archaeology of Ancient Egypt at the University of Illinois since 1984. His research interests revolve around human interaction with fauna, and involve both archaeological and ethnographic studies. He has conducted fieldwork in Egypt and in Idaho, Nevada, Oregon, Tennessee, and Washington and has written 16 articles and chapters on ethnozoological and zooarchaeological topics.

Doug's curatorial responsibilities include collection management and developing a computerized data base system, in addition to directing research on and improving organization of the paleobiological collections.

Museum Gift Shop

If you haven't seen our gift shop lately, you're in for a pleasant surprise. Our inventory has expanded greatly during the past few months. We carry many educational natural history items, such as minerals and fossils, nature books, cassette tapes, and bird calls.

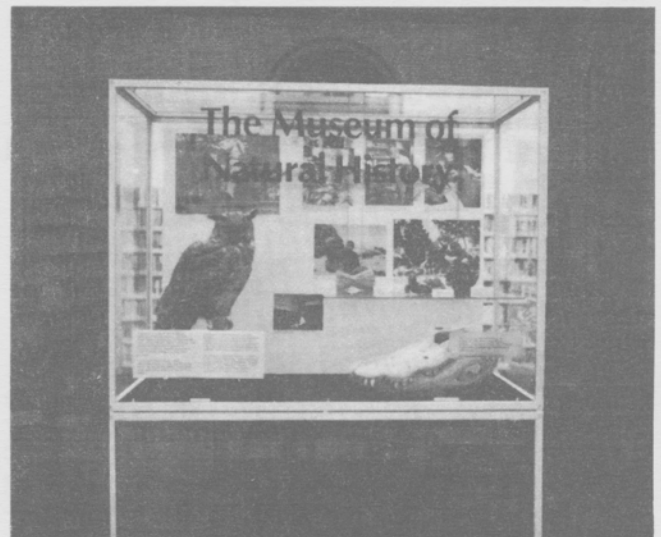
Dinosaurs are a specialty; they come in all sizes and varieties—in the form of erasers, magnets, pins, and models, including a brand new set authenticated by the Carnegie Museum.

In keeping with the ethnographic focus of our collections, we also stock a variety of items handcrafted in the Americas, such as pottery from Ecuador and Mexico, textiles from Guatemala, and Native American birchbark baskets and pipestone crafts.

In addition, we have a wide selection of jewelry from around the world, including lapis lazuli and carnelian from Afghanistan, turquoise from the Zuñi Pueblo, sterling silver totemic symbols from the Pacific Northwest, and hand-painted beads from Peru. We even have shark's tooth earrings! The shop is a great place to find a unique gift for someone special or a little treat for yourself.

Although the primary reason for having a Museum gift shop is to offer Museum visitors a wide variety of attractive and educational items, proceeds from the shop help support the Museum's programs. They pay for the work-study students who staff the shop and our Living Room; recently we used shop proceeds to purchase "Sting," our black scorpion from the African Congo.

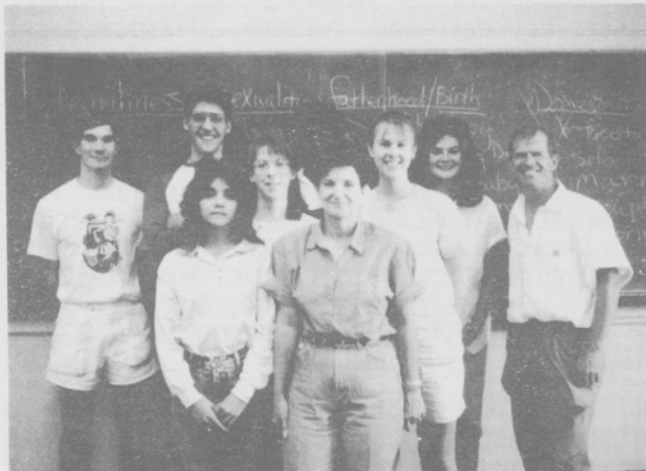
The shop is open Monday through Saturday from 9 am to 5 pm and Sunday from 2 to 5 pm when the University is in session; hours are restricted during school holidays and breaks and at the beginning of each semester. For more information, call 244-3182 or 333-2517. The shop is located near the main third floor Museum gallery. Come see us.



Outreach Case

The Museum's travelling outreach case pictured above has visited libraries in six area communities, was displayed for alumni on University Day, and is now on view in the entrance lobby of the Natural History Building. In all, it has brought the Museum to an estimated 64,000 individuals, and we hope it has brought some of them to the Museum.

Museum Anthropology Course



Anthropology 398 students, left to right: Tony Springer, Bill LaFleur, Mary Aviles, Amy Weir, Vaneitta Goines, Jane Crawford, Barb Ulrich, Mary K. Porter, and Bob Payne.

"Archaeology and the Museum" was the title this semester of Anthropology 398, taught by Charles Keller. The class, eight undergraduate and two graduate students, was involved in the installation of the new exhibit "Ancient Mid-western Lifeways;" students also read papers concerned with exhibit design, the history of museums and archaeology. They also prepared and conducted a visitor survey to help evaluate the exhibit. Part of the survey was carried out at the Museum's Autumn Open House in November.

Next semester's class will be on conservation. Ms. Catherine Sease, an anthropological conservator at the Field Museum in Chicago, will be a guest lecturer in early March.

Mammalogy in China

Curator of Mammals Ray Lee and his wife, Shirley, visited the Peoples Republic of China between mid-July and mid-August. Ray attended the Symposium of Asian-Pacific Mammalogy, held at Huairou near Beijing from 26 to 30 July. The symposium was sponsored jointly by the American Society of Mammalogists and the Mammalogical Society of China.

Papers presented at the symposium focused mostly on Asian and western Pacific mammals. Participants in the symposium came from all major countries, including the U.S., the U.K., Canada, the Soviet Union, France, West Germany, Australia, Israel, and, of course, China, Japan, Korea, Hong-Kong, and India.

Such a trip has to include some sight-seeing. Xi'an, in the province of Shaanxi, is the site of the famous terra cotta army, some 7000-8000 clay soldiers and horses, that is associated with the tomb of Qin Shihuang, the first emperor to unite China in about 200 B.C. The Lees also visited the Forbidden City and Summer Palace in Beijing and had a tour of the Great Wall.

After the meetings, the Lees visited the Kunming Institute of Zoology of the Academia Sinica. This institute serves as a graduate training facility for Chinese students; the staff conducts research in such areas as non-human cytogenetics, taxonomy, and ecology. They then flew south to Simao, whence they took a bus trip to Jinghong on the Mekong River, which lies in beautiful tropical country, about 50 miles north of the Burmese border. Here they visited villages of some of China's ethnic minorities and spent a day at the primate center where native rhesus monkeys are raised. When they returned to Simao, they trekked into a special nature preserve, hoping to see some of China's 300-400 wild Asian elephants. Alas, only tracks and watering holes were found.



Mythical beast at gate of Ming Tombs north of Beijing.

The Lees found mammalogy in China an active field, with much work on ecology, distribution, and systematics. Many modern methods, including electrophoresis of proteins, studies of DNA, and cytogenetics are being applied with enthusiasm.

The Mammal Collection Grows

Trapping mammals for specimens, preparing them as study skins with cleaned skulls, and getting them cataloged and distributed into the collection are all time consuming activities.

In the past two years, more than 200 specimens have been incorporated in the Museum's mammal collection; these were mainly collected by Woodrow Goodpaster, who has long added to the Museum's collection, and include samples from Kansas, South Dakota, and Alaska. Another 75 Goodpaster specimens are on hand to be cataloged, as well as nearly 160 specimens accumulated in Mark McKnight's study of pocket mice.

Thinking in Iron

The paper, "Thinking and Acting with Iron," co-authored by Charles and Janet Keller, was presented a year ago in Stegundsund, Sweden, at a conference entitled *Context, Cognition, and Activity*. The conference was sponsored by the Spencer Foundation, the University of California, Irvine, and the University of Linköping. The proceedings of the conference are currently under review by the Cambridge University Press.

The paper focuses on the modern production of a 19th century-style iron and brass skimmer using the manufacturing technology of that century. It discusses the interaction of knowledge and experience in the solution of design and technical problems that arose during the production of the skimmer; the concern is with the cognition and activity of a contemporary smith. The point of the discussion is to show that knowledge and experience form a complex activity system, and that knowledge of a particular topic cannot be understood by itself, but can only be fully comprehended in the situation where it is applied.

A more recent version of the paper was read by Janet Keller at a colloquium of the Cognitive Sciences Program at the University of North Carolina this past November.



Quad Day Message

To all returning students on Quad Day, the Museum's staff and volunteers had this message: come visit and take advantage of and get involved in our programs. Debra Kindervatter, Joanne Kluessendorf, Debbie Novak, and Charlotte the tarantula (in the glass case) pictured above from left to right, were among those who staffed the Museum's booth that sunny August day.

A Conservation Survey

This fall, the Museum was visited by two conservation specialists: Ms. Catherine Sease of the Field Museum of Natural History and Ms. Valerie Metzler, a private consultant from Evanston, Illinois. Their visits were made possible by a Conservation Project Support grant from the Institute of Museum Services. Ms. Metzler and Ms. Sease inspected not only the Museum's collections, but also those in affiliated departments: Plant Biology's herbarium and coal ball collection; Geology's rock, mineral and invertebrate fossil collections; and Anthropology's ethnographic collection.

Their goal was to help the managers of these collections identify conservation methods that should be applied and advise them in the application of those methods. Their final reports are expected as this newsletter goes to press. The reports will help the Museum establish conservation priorities for these various collections and form an essential part of future applications to IMS for conservation support.

The Hottes Collection

Dr. Charles F. Hottes' slide and film collection was donated to the Museum of Natural History by his family. It contains approximately 4,000 slides and 500 motion pictures of excellent quality covering a wide variety of subjects, from pulque making in Mexico to bee pollination. Together, they are an invaluable record of structures, costumes, customs, dances, and ceremonies of native North American peoples. Many of the places that Dr. Hottes visited have changed drastically since he photographed them in the 1930s, '40s, and '50s, so the slides preserve some traditions not commonly practiced today and landscapes that no longer exist.

Among the slides in this collection are shots of Mayan Indians farming, going to market, and dressed in native costume, carrying on many traditions from pre-Columbian times. Slides from the United States record sites in Colorado, Florida, and Arizona and feature places of interest, such as Bryce Canyon, Death Valley, and Salt Lake City.

This marvelous collection was made during Dr. Hottes' many trips throughout the United States, Mexico, and Central America. He used it in talks at the University and in the local community. We are currently cataloging this large collection so that it may be fully used for research and teaching.

Linda Maxson Leaves

Dr. Linda Maxson, who served as Curator of Herpetology since 1983, resigned her position at the University of Illinois in July to assume the duties of Department Head in the Department of Biology at Pennsylvania State University. Her steady hand and industrious research program will be sadly missed by both the Museum and her department, Ecology, Ethology, and Evolution.

A Blacksmith's Account Book

Charles Keller and his research assistant, Paul Benson, have submitted a paper entitled "Ignatius Streibich, Blacksmith" to the "Chronicle" of the Early American Industries Association. The paper provides a preliminary report on the Newman, Illinois blacksmith's account book from the 1870s, which Keller and Benson have been analyzing at the Museum since last February. Their paper describes the range of work done by Mr. Streibich and compares jobs done for a farmer, a physician who lived in town, and for a general merchandise store.

Golden Guides Award

The New York Academy of Sciences, at its 17th Annual Children's Science Book Award ceremonies, presented a special award to Golden Press/Western Publishing for its Golden Guides, a series inaugurated 37 years ago and recently revised. This series has greatly influenced science books for children and has set a standard that has enriched all children's books.

Both Don Hoffmeister, Director Emeritus, and Hobart Smith, former Curator of Herpetology, contributed popular and authoritative books to this series.

Pocket Mice are Fascinating

Mark McKnight, one of mammalogy curator Ray Lee's doctoral students in Ecology, Ethology, and Evolution, is studying the evolution and systematic relationships of pocket mice, genus *Perognathus*, in Arizona and New Mexico. In his investigation, Mark is using traditional methods, based on the Museum's collections of skins and skulls, and modern methods, such as electrophoresis of proteins, morphology of chromosomes, and sequence data on mitochondrial DNA.

Mark's original project was to determine whether *P. amplus* and *P. longimembris* are truly two different species or two races of the same one. These two kinds of pocket mice are usually very different in size, especially where their ranges overlap. In northwestern Arizona, however, both kinds of pocket mice are about the same size, and almost indistinguishable by morphology. Both kinds also have chromosomes that are very similar in number and shape, although chromosomes of mice from some localities have a few small shape differences. In sharp contrast to the chromosomes, which suggest close relationships between *P. amplus* and *P. longimembris*, differences in the mitochondrial DNAs of the two kinds of mice suggest that they may have diverged from a common ancestor as long as five million years ago.

Two other kinds of pocket mouse that Mark has trapped, along with *P. amplus* and *P. longimembris*, are also remarkable. They are very different in morphology, chromosomes and mitochondria, enough so that they seem to be distinct species. In one locality, however, mice of one species appear to have mitochondrial DNA belonging to the other, suggesting that at some time in the past the two species have hybridized in this area, with the result that mitochondria and genes have been exchanged between the two species.

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The Museum has a growing number of Friends to help it accomplish its goals and improve its programs. Some of our supporters contribute directly to the Museum, while others make

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Thanks for Your Efforts

Since publishing our last newsletter, many individuals have contributed their time, energy, and expertise to the Museum's many pro-

jects. We are thankful for their interest and efforts.

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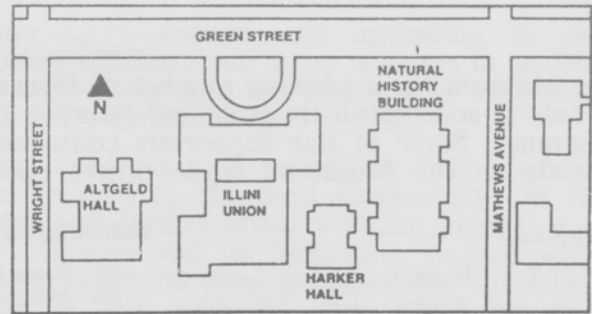
Other Donors

Several individuals have recently given the Museum useful or valuable items. These include Dr. and Mrs. Harry G. Drickamer, Mr. Brian Hanson, and Mr. Henry Wilson, who donated magazines; and Mrs. Eleise Henry, who donated a sampling of minerals from her late husband's collection.

See the Museum

The Museum of Natural History galleries are located on the third and fourth floors of the Natural History Building, 1301 West Green Street, Urbana. The galleries are open 9 am to 5 pm Monday through Saturday and 2 to 5 p.m. Sunday, except for official University holidays, including Labor Day, Thanksgiving Day and the day after, two four-day weekends around Christmas and New Year's Day, Memorial Day, and Independence Day.

Other exhibits are located throughout the building's hallways. *Living Room* hours may vary at the beginning of each semester and during the summer months.



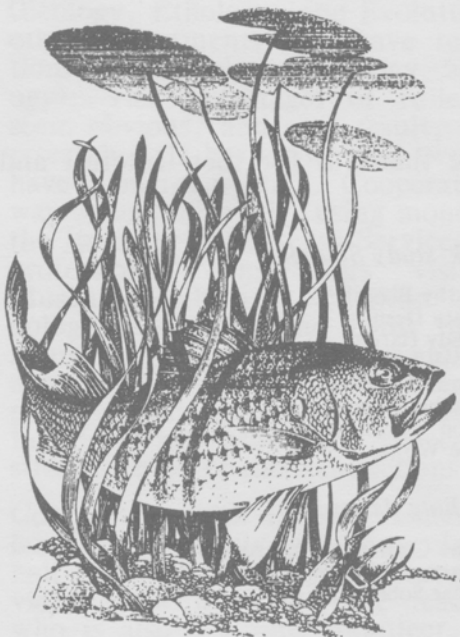
When coming from out of town to visit the Museum, exit Interstate 74 at Lincoln Avenue, go south to Green Street, then west on Green Street to Mathews Avenue. Metered parking is available on Mathews Avenue. There is also metered parking in a municipal lot near the corner of Green and Sixth Streets in campustown and beneath Krannert Center for the Performing Arts (enter the lower level ramp from Illinois Street).

Doug Brewer, Jane Crawford, Charles Keller, Debra Kindervatter, Joanne Kluessendorf, Ralph Langenheim, Ray Lee, Mark McKnight, and Andi Wytczak made this Newsletter possible.

The Newsletter is published by the Museum of Natural History of the University of Illinois at Urbana-Champaign. Thomas Uzzell and Charles Stout, Editors.

Museum of Natural History
University of Illinois
438 Natural History Building
1301 West Green Street
Urbana, Illinois 61801

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Museum of Natural History

NEWSLETTER

University of Illinois at Urbana-Champaign

Volume 1, Number 6

May 1989

Fish Paintings in Egyptian Tombs

Douglas J. Brewer (Curator of Ethnobiology) recently returned from Egypt, where he has been conducting anthropological research for the past ten years. Doug's most recent trip served two purposes: tomb photography and the identification of a site for future excavations.

Egyptian authorities opened the Tomb of Paher (Middle Kingdom, ca. 2140 BC) and the Tomb of Anktify (New Kingdom, ca. 1450 BC) so that Doug could photograph tomb scenes of fish and fishing activities. Many of these photographs, along with those taken at other tombs and at museums around the world, are being published in *The Fishes of Ancient Egypt*, the second volume in the *Natural History of Egypt* series published by Aris and Philips Ltd., Warminster, England. This book, co-authored by Doug and Renée Friedman of the University of California-Berkeley, traces the importance of fish in ancient Egyptian society; it is in press.

While in Egypt, Doug also looked for areas with archaeological potential for future excavations. He visited several sites in both Upper and Lower Egypt, and identified one particularly promising site in the Egyptian



Section of a much larger tomb painting prominently displaying fish.

Delta (Lower Egypt). Doug and his collaborator on this project, Robert J. Wenke of the University of Washington, will revisit this site in May to plan for excavation, which may begin as early as the summer of 1990.

Museum Research Associate

Christina Spolsky, our newest Museum research associate, received her Ph.D. in microbiology at Yale University, where she induced and then isolated mitochondrial

mutants in human tissue culture cells. Since then, she has held Research Associate appointments at The University of Pennsyl-

(continued on page 7)

Spring's Colorful Events



Mrs. Vera Samycia demonstrating how to decorate Easter eggs the traditional Ukrainian Way.

The Museum was host to two special and colorful demonstrations in January and March. In January, Mr. Demitrios Betinis, scientific illustrator and preparator at the Field Museum of Natural History in Chicago, demonstrated "Gyotaku," the Japanese art of fish printing. After his demonstration, he held an informal workshop for a large and enthusiastic crowd.

In March, the Museum co-sponsored a demonstration and workshop on traditional Ukrainian Easter egg decorating with the

university's Ukrainian Student Association. Mrs. Vera Samycia repeated and improved on last year's successful event. The Ukrainian Student Association provided volunteers to assist with the workshop as well as the eggs, much of the needed decorating paraphernalia and refreshments for the event.



Mr. Demitrios Betinis aiding aspiring artists in the handling of fish, paint and brushes.

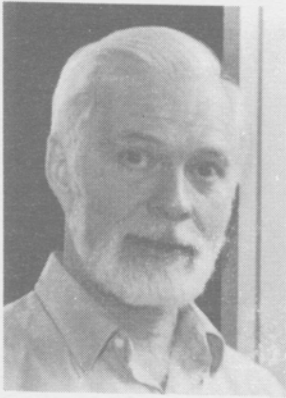
Most recently, the Museum held a reception for Dr. J. Desmond Clark (University of California-Berkeley), following his Miller-Comm talk entitled "Broadening the Search." Professor Clark described recent progress in the interdisciplinary search for early human fossils and for understanding our earliest human ancestors.

Going Places

To make the community more aware of the attractions and services it offers, the Museum participated in two weekend events held at Market Place Mall. On the first weekend of February, we had our third annual display at Nature Expo. In early April, we joined the Early American Museum and Gardens, Krannert Art Museum, World Heritage Museum, and the Champaign Public Library for the Market Place

Museum Weekend. Volunteers and staff, including Richard Cunningham, Katy Desulis, Ralph Langenheim, Carole Lepzelter, Debbie Novak, Bob Payne, Chuck Stout and Thomas Uzzell, talked to hundreds of passers-by who were interested in the stuffed animals and bones displayed at our booth.

From the Director



From time to time, we recognize local scientists who have expertise in areas of interest to the Museum as Museum Research Associates. In this issue we greet our newest: Dr. Christina Spolsky of the Department of Ecology, Ethology, and Evolution.

Chris and I have worked together on research projects for the many years that we have been married. In her current research on the phylogeny of mole salamanders and on their interspecies hybrids, I'm primarily a field helper. We spent much time in February, March and April traveling in Indiana and Illinois, installing drift fences to catch salamanders for crossing experiments. We had study sites in Brown County State Park in south-central Indiana, near Muncie and Lafayette, Indiana, and southwest of Chicago.

The salamanders live underground in wooded areas for most of the year and are hard to find. In early spring, with the first warm rains, they migrate to temporary woodland ponds to breed. We use foot-high drift fences made of aluminum screening to intercept the animals on their way. Tall fruit juice cans sunk along the outside of the fences collect the salamanders as they walk along the fence looking for a way to the pond. What we have to do is visit our sites following each rainy night. We identify the animals, count the males and females, release most of them into the pond, and retain a few for breeding. These we try to convince that it is still winter by keeping them in refrigerators just above the freezing level.

When we have the material needed for our crosses, we place appropriate males and females in wire cages. This spring, we used a woodland pond in Busey Woods (Thanks to the Anita Purves Nature Center and the Urbana Park District for this privilege!). Each day we check the cages for evidence of courtships (the male salamanders deposit spermatophores, small gelatinous stalks

with seminal fluid at the apex; the females retrieve the sperm from these so fertilization is internal). Later we remove the males and wait for eggs. The females are then removed and the eggs are allowed to develop under nearly natural conditions until almost ready to hatch.

This spring, we have made crosses using Jefferson salamanders (*Ambystoma jeffersonianum*), blue-spotted salamanders (*A. laterale*), small-mouth salamanders (*A. texanum*) and various hybrids between them: silvery salamanders, which have two sets of Jefferson chromosomes and one set of blue-spot chromosomes and Tremblay's salamander (two sets of blue-spot chromosomes and one from of Jefferson). The larvae are now growing rapidly on a diet of brine shrimp, awaiting a detailed molecular genetic analysis.

Thomas Uzzell

Summer Class

The Museum is offering a summer class for high school students interested in exhibit preparation. Charles Stout, Curator of Exhibits, will guide students through the assembly of a new exhibit on arctic peoples that will open in the fall. The course will run Monday through Friday from 10 to 28 July, between 9:30 a.m. and 2:30 p.m.

The class will begin with an orientation to the Museum, the ethnographic gallery, the cultures represented in the exhibit on which students will be working, and the exhibit's design. The rest of the class will be spent learning how to install an exhibit, and then actually doing it. Students will make and work with case furniture and exteriors. They will also be shown how to handle and install artifacts and graphics.

The cost of the class is \$60 and the registration deadline is 30 June. To register, send a check payable to the University of Illinois to:

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Understanding Technology and History



Producing stone tools by "flaking" or "chipping" requires that a stone fracture conchoidally, to produce shell-shaped flakes. The ability to fracture this way is usually associated with fine-grained (or crypto-crystalline) rocks such as glass, flint, chalcedony, or chert. Nevertheless, some much coarser-grained rocks such as quartzite and granite also fracture conchoidally and were used to make flaked stone tools in the past.

Percussion flaking is the oldest of the various ways of working stone. It was used in East Africa as long as 2.2 million years ago. This kind of flaking can be done in two ways. The "hard hammer" technique uses a hard (but not brittle) rock to strike and remove flakes from the "core." In the "anvil" technique, the core is swung against a large stone block (the anvil) to remove the flakes. For either technique, the core must have at least one place on its surface where its faces intersect at an angle of 120° or less. One face is then struck with either the hammer or the anvil, so that a flake is detached from the face that is opposite the one that was struck.

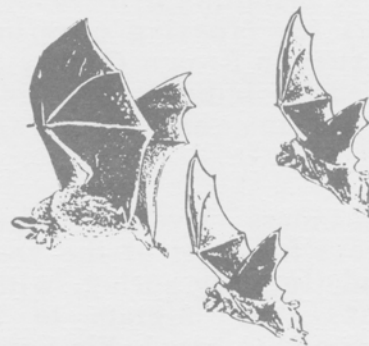
Dr. Stanley Ambrose demonstrates to the ATAM students percussion flaking of a nodule of chert, using a piece of antler provided by the Museum (the antler was donated to the Museum by Ms. Suzanne Costanza).

The Program on Ancient Technologies and Archaeological Materials (ATAM) offered an interdisciplinary course this spring entitled "Materials and Civilization." This course, part of a regular series offered by ATAM, explored the qualities and roles of

materials used to make art objects, buildings, domestic utensils, tools, and weapons from the Stone Age to the Renaissance.

Among the many topics addressed by the course was iron working. Charles Keller, the Museum's Curator of Anthropology, presented a lecture on iron smelting, forging and the history of these two processes. He also gave the ATAM students a demonstration of some basic forging techniques at the Early American Museum in Mahomet.

Other topics covered by the course included stone tool manufacture and use; Greek and Roman ceramic technology; metallurgy; stone architecture; preserving art objects and identifying fakes and forgeries; reconstructing the diet, habitat, and climate of past peoples; and carbon-14 dating.



Nelson's Bats

Visitors to the Museum's mammal collection frequently ask, "Why do you need so many" when they see trays filled with tens of individuals, all of one species, all from one place. One person who appreciates the need for these series is Dave Nelson, a graduate student in biology and statistics. Dave is working on a master's project under the supervision of Curator of Mammals Ray Lee, comparing geographic variation of morphological features in migratory and hibernating bats. Because this analysis examines variation both between and within localities, large sample sizes are necessary to obtain statistically-meaningful results. Rather than having to travel from Florida to the state of Washington, capturing bats all

(continued on page 8)

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The Museum has a growing number of Friends who help achieve our goals and improve our programs. Some of our supporters contribute directly to the Museum,

but others make their donations through the Liberal Arts and Sciences Annual Development Fund. Both kinds of support are important and very much appreciated.

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 Mr. Morgan A. Dubiel
 Mr. Jon Emerson
 Mr. Seth Emerson
 Mr. Eddie Goletz
 Mr. Steven J. Hageman
 Ms. Ellen Heininger

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Several individuals recently donated useful or valuable items or services. These include Ms. Suzanne Costanza (photocopying, antlers), Mrs. Ross J. Martin (Bahama sea shells, small alligator) and Mr. Harry M. Wilson (nature magazines).

People Behind the Programs

Volunteers - The following individuals donated time and expertise to the Museum's programs and events. We thank them for their much-valued efforts: Kathy Blaszik, Amy Crane, Richard Cunningham, Katy Desulis, Joanne Kluessendorf, Carole Lepzelter, Margie Lisnich, Lisa Park, Marian Piekarczyk, Mary K. Porter, Rich Poskin, Leslie Wygert.

Staff - The Museum's staff is growing. Below are individuals who are building the research, exhibits and education programs.

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Andrea Tirva

Andrea Tirva
Barb Ulrich
Amy Weir
Leslie Wygert

William Severinghaus
Christina Spolsky

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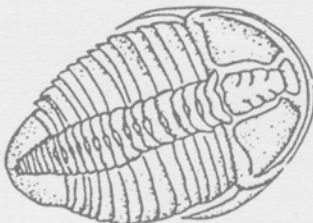
Thomas Uzzell

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Joanne Kluessendorf
Benjamin Kaufman
Russell Zanka

Research Associates

Donald Mikulic



Spring Field Trip

As this issue of the Newsletter goes to press, we are preparing for our 7 May Spring Field Trip to Matthiessen State Park and the Michigan-Illinois Canal for a tour of spring plants, geological formations and

birds. The tour guides are Ralph Langenheim (Curator of Paleontology), Dan Nickrent (Director of the university's Herbarium) and a bird specialist to be named. We'll report on the trip in the Fall issue.

Pass It Along

When you're through with this newsletter, pass it along to someone else who would like to know about the Museum. If you let us know, we'll be happy to add his or her name to our mailing list.

(Spolsky continued from page 1)

vania, at the Wistar Institute in Philadelphia, at The Academy of Natural Sciences in Philadelphia and most recently in the Department of Ecology, Ethology, and Evolution here at the University of Illinois.

Beginning with her service at The Academy of Natural Sciences, Dr. Spolsky has turned her attention more and more to evolutionary problems in vertebrates, especially amphibians. Her earliest work provided one of the most striking case of transfer of mitochondrial genes between species. She has also demonstrated the importance of matings between males of the hybrid species *Rana esculenta* and females of its sexual host; such matings are very infrequent, but because of them, almost all lineages of *R. esculenta* have mitochondrial DNA derived from the sexual host rather than from the maternal parent in the original hybridizations.

Among her other research interests are problems of phylogeny and hybridization in fire-bellied frogs (genus *Bombina*), dusky salamanders (genus *Desmognathus*) and slimy salamanders (genus *Plethodon*). Currently, she is working extensively on hybrid frogs in Europe and on the phylogeny and hybridization of mole salamanders (genus *Ambystoma*).



Although we try not to ask our Friends to contribute more than once each year, we slip up from time to time. If there is an asterisk next to your name on the mailing label, then you are a current member; please disregard our membership envelope if you receive one with this newsletter. If you are a current member and there is no asterisk by your name, please call us at (217) 333-2517 so that we can correct our records.

Debra Kindervatter Leaves

Curator of Exhibits Debra Kindervatter has left the Museum to take a position with The Terminal at Liberty State Park, a new museum being established by the State of New Jersey. Ms. Kindervatter had been eager to return to the east coast. We are pleased to have had her enthusiasm and organization for the year she was with us.

Charles Stout Appointed Curator of Exhibits

Filling staff positions with highly qualified people is usually difficult. The Museum is fortunate to have had two well-qualified exhibits curators on its staff, and Charles Stout has agreed to serve as our Curator of Exhibits. At the same time, Chuck retains considerable responsibility for our education programs, which he plans to streamline to improve their effectiveness.

Museum Conservation

Charlie Keller (Curator of Anthropology) is once again teaching an undergraduate seminar in the Museum. The topic this semester is conservation. The fifteen students gained first-hand experience in conservation practice while caring for our Crocker Land photographs and the Quaternary fossil collections and talked with specialists from the Field Museum of Natural History and the Illinois State Museum. They began restoration of a plaster cast of a glyptodont and inventoried and reorganized the Museum's exhibit storage areas. Preliminary steps were taken to survey the fluid-preserved collections for formaldehyde residues.

The Museum programs need volunteers to work in the Living Room and the Museum Shop and to provide guided tours. If you are interested, please contact Chuck Stout at (217) 333-2517.



(Bats continued from page 4)

the way, Dave can use the large bat collection at the Museum, and receive from other museums loans of specimens representing localities he needs.

Dave is interested in how species' movement patterns affect their variation across large areas. For his study, he measures certain dimensions of the cranium and wings of bats belonging to two species with very different patterns of movement. The free-tailed bat, *Tadarida brasiliensis*, is known for its long, yearly migrations in part of its range; in contrast, the hibernating *P. townsendii* appears to be one of the most sedentary bat species in the United States. Because geographic variation may be related to gene flow between populations, it seems possible that migrating bats, which have a greater ability to disperse, have little regional differentiation. On the other hand, it is also possible, since both migratory and sedentary bats fly, neither species has much regional variation. Early results indicate that *P. townsendii* may have

more geographic variability than *T. brasiliensis*.

Dave began learning the ropes of museum research during an undergraduate project supervised by Director Emeritus Donald Hoffmeister. They wanted to find ways of distinguishing between Illinois coyotes, domestic dogs and their hybrids. In this case, however, the lack of good series of coyotes captured in Illinois during the early 1900s hindered their analysis of *Canis*.

Besides these studies, Dave has worked extensively in the curation and study of the United States Army's CERL mammal collection, which is housed in the Museum.

Visiting the Museum

The Museum of Natural History galleries are located on the third and fourth floors of the Natural History Building, 1301 West Green Street, Urbana. The galleries

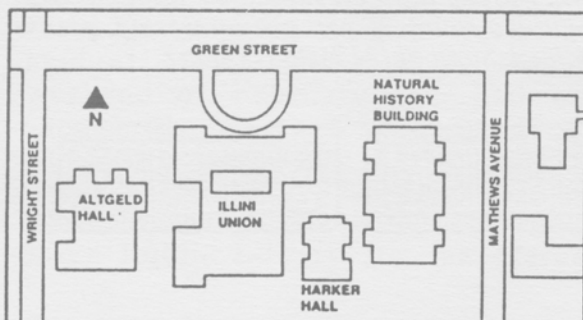
are open 9 AM to 5 PM Monday-Saturday, 2 to 5 PM Sunday, except campus holidays: Labor Day, Thanksgiving and the day after, M. L. King's birthday, Spring Break Day, Memorial Day, Independence Day. Other exhibits are located throughout the building's hallways. Summer *Living Room* hours will be posted in June.

When coming from out of town, exit Interstate 74 at Lincoln Avenue. Metered parking is available on Mathews Avenue, at a municipal lot near the corner of Green and Sixth Streets, and beneath Krannert Center for the Performing Arts (enter lower level from Illinois Street).

Doug Brewer, Katy Desulis, Charles Keller, David Nelson, Charles Stout, Thomas Uzzell and Sarah Wiseman made this *Newsletter* possible. The *Newsletter* is published by the University of Illinois Museum of Natural History. Charles Stout and Thomas Uzzell, editors.

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University of Illinois
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Museum of Natural History NEWSLETTER

University of Illinois at Urbana-Champaign

Volume 1, Number 7

November 1989

TRIP TO MATTHIESSEN AND STARVED ROCK PARKS AND THE I&M CANAL

Last May, twenty-two Friends of the Museum and friends of Friends took an all-day trip to the canyon at Matthiessen State Park, Starved Rock State Park, and Split Rock on the Illinois and Michigan Canal. The tour group enjoyed a sunny spring day, just after a snowstorm; snacks on the bus; and a memorable buffet lunch in an improbable restaurant.

Ralph Langenheim, our Curator of Paleontology, clued us in on the Geology; Dan Nickrent, Director of the U. of I. Herbarium, showed us plants; and Tom Uzzell back-stopped all of this along with pertinent comments on reptiles and amphibians. There were also several bird-watchers who had a chance to see both upland and floodplain birds.

Two exposures of deformed rocks on the LaSalle Anticline, visible in Matthiessen Canyon and at Split Rock, highlighted the geological part of the trip. The tour group saw lots of ancient beach sand (about 400 million years old) at all three stops. They also saw the roughly 300 million-year-old Pennsylvanian sandstone exposed at Split Rock where it rests on the eroded, upturned St. Peter Sandstone.



Thomas Uzzell and Ruth Lorbe look on as Dan Nickrent points out a floral detail.

The biota at Matthiessen includes numerous plants more characteristic of habitats to the north that manage to survive in the cool, damp depths of the canyon. Many of the birds here are also not generally prominent in the Illinois countryside. Above the canyon, Matthiessen supports dry upland forest plants and animals.

Besides its natural history significance, the Illinois and Michigan Canal is of considerable historical interest. The canal helped convert Chicago from a frontier town to a growing metropolis by opening a route from the Great Lakes to the

Mississippi River. Although it soon lost its importance with construction of the Rock Island Railroad, it persisted into the 20th century, when it was replaced by the current dam and lock system on the Illinois River.

A group of underground quarries where natural cement rock was once extracted lies just east of Split Rock. The resultant caves are the largest bat hibernaculum in Illinois and, among other things, house a colony of the Indiana Bat, *Myotis sodalis*, an endangered species. The quarries were used as a boot-leg distillery during prohibition.

FOSSIL GRANT

Ralph Langenheim, our Curator of Paleontology, has received a University of Illinois Research Board Grant to begin study of Pennsylvanian Age (300 million year-old) brachiopods from western Illinois. Brachiopods are marine animals that look a lot like clams, but are actually more closely related to "moss animals," or bryozoans. He will be aided by Joanne Kluessendorf, Research Assistant. Ralph is preparing a grant proposal to an outside funding agency to support continuation and expansion of this project.

Why are we interested in these ancient brachiopods and what are they? They are an important tool for comparing the ages of Pennsylvanian rocks in different parts of the world, determining the depth and character of Pennsylvanian seas, and learning something of how life changed in the Late Paleozoic. In the Paleozoic, brachiopods were a dominant group of rapidly-evolving marine animals. In contrast to many of their non-shelled contemporaries, brachiopods tended to be preserved, so that they are now available for study.

The brachiopods Ralph and Joanne plan to study are part of an extensive collection of Pennsylvanian fossils brought together for a mapping project in a western Illinois coal field between Glasford and Beardstown, on the west bank of the Illinois River, southwest of Peoria. The late Harold Wanless, of the Department of Geology, published a bed by bed catalog of all the fossils collected in that project in 1958. This catalog has become the standard list of Illinois Pennsylvanian fossils and an important reference for many geological research projects. Unfortunately, the fossils were never illustrated or formally described, leaving us with only a list of names and a collection, much of which has disappeared. In addition, paleon-

tologists have revised their understanding of these fossils in the three-decades since that original work was done, so names no longer have their original meaning.

Ralph and Joanne hope to find and use fossils in the Museum and University collections, along with the remnants of the 1958 collections preserved at the State Geological Survey, to describe and illustrate this important fossil group from the Illinois Pennsylvanian. Thereafter, they expect to produce a refined, up-to-date explanation of their significance in historical geology. In the course of this work, they will bring the valuable fossil collections of both the Museum and the University to a much higher level of curation, making them available for a wide variety of scientific research.

DARLENE DEVORE JOINS MUSEUM STAFF

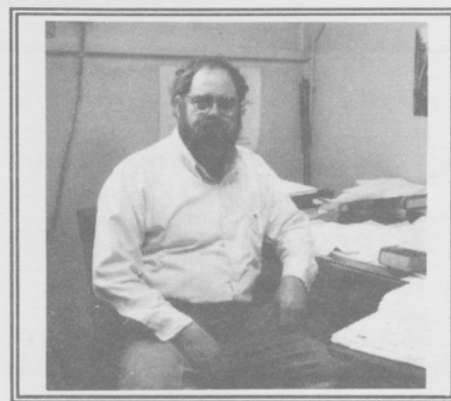


The Museum welcomes Darlene DeVore, who joined the staff as secretary late last January. The Museum business office is far from the sanest place at the university, but Darlene has applied her organizational skills to the ever-increasing staff and its various projects, making it easier for everyone else to get done what needs doing. We hope she stays a long time.

PASS IT ALONG

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FORGING A SABBATICAL LEAVE



Charles Keller, Curator of Anthropology, has been on sabbatical leave since June, when he traveled to the east coast to examine late 18th- and early 19th-century hand tools in the collections at Colonial Williamsburg.

This fall, Charlie is doing library research and a series of forging experiments, both aimed at learning the hand-forging techniques that were adopted by the designers of machines used in 19th-century factories.

Charlie's concern in this investigation is not only historical; he is trying to improve understanding of the knowledge and strategies used by hand-forgers and how they changed with the advent of machinery.

PRIMATE EXHIBIT

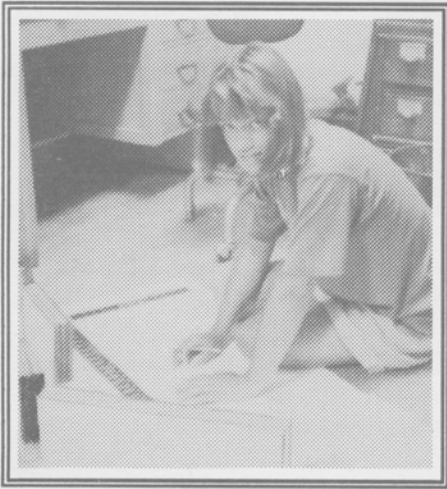
This semester, Debora Bakken, a graduate student in the Department of Anthropology, is taking an independent study course aimed at the installation of a new primate evolution exhibit.

Because of new discoveries and new methods, understanding of

relationships between primates and of evolutionary processes has improved since the Museum's existing display was installed three decades ago.

The new exhibit is only in the planning stage, but when completed, it will be an important part of our public programming, as well as a supplement for introductory anthropology courses.

SUMMER COURSE LEADS TO NEW GALLERY



Intern Andrea Jackson preparing a model of the ethnographic gallery floor plan.

For three weeks last July and August, University High student Andrea Jackson took part in an exhibit internship. The internship provided experience in planning and designing an ethnographic gallery and the major exhibits it will contain, and offered hands-on experience with various ethnographic objects, including bone, ivory, leather, metal, plant fiber, pottery, stone, textile, and wood.

Her internship began with the construction of scale model exhibits, mechanical drawings of floor layout, and selection of colors and graphic details to be used in each exhibit. These practical activities were supplemented with readings on exhibit design, labeling, graphics, model construction, and arctic peoples—the subject of one of the exhibits in the new gallery.

The second two weeks of the course were mostly spent building sections of the gallery: framing, drywalling, sanding, painting, and installing exhibit case exteriors and interiors.

Ms. Jackson's internship was a great beginning for the new gallery, the construction of which is now work-study student John Loacker's primary responsibility. In October, the Museum submitted a proposal to the Illinois Humanities Council to help pay for the gallery's installation.

GETTING OUR MESSAGE TO THE PUBLIC

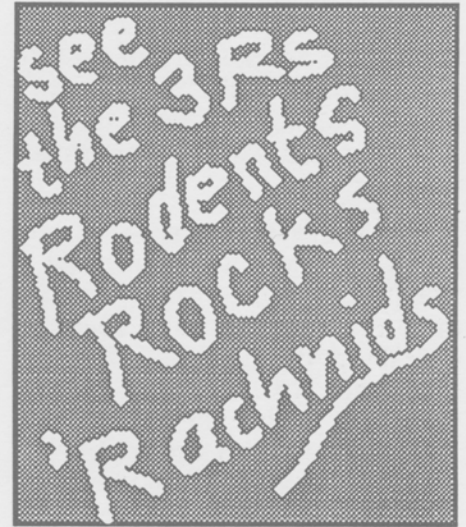
The Museum has in a number of outreach activities, including displays at Nature Expo and the Museum Weekend, which are held in February and April, respectively, at Market Place Mall. In addition, Museum staff members offer their expertise to schools and groups in the community:

After the Santa Cruz-San Francisco earthquake in October, Ralph Langenheim, Curator of Paleontology, was interviewed on WILL radio about causes of that tragedy and the likelihood of similar quakes in other parts of the country, including central Illinois. David Nelson, Curatorial Assistant at the Museum, recently gave a special presentation on mammals to a local Boy Scout troop. Charles Stout, Curator of Exhibits, often judges science fair presentations at local schools.

Our director, Thomas Uzzell, has given slide talks on the Museum; he and other members of the staff are available for presentations on the Museum or on their areas of natural history. We also have a small number of traveling exhibits available for schools, libraries, and other institutions.

The Museum also has to reach out to the university population. Each Fall, we talk with hundreds of new students and staff members

who pass our display booth on Quad Day. Although this year's Quad Day was wet, it was far from a washout. Joanne Kluessendorf, the Museum's shop manager, and Charles Stout, Curator of Exhibits, passed out brochures and talked with hundreds of students and faculty members who stopped by the Museum's display.



The Museum's Quad Day Poster.

Our Quad Day Dinosaur Contest had 266 competitors trying to guess the number of plastic dinosaurs in a sealed glass jar! Mr. Steve Landkerr was our winner, receiving a \$10 gift certificate at the Museum Shop. Mr. George Wilson won second prize, the jar of dinosaurs.

SKIN AND HIDE ARTIFACTS

This fall, Curator of Exhibits Charles Stout is teaching a course on the anthropology of skin and hide use and the conservation of leather artifacts.

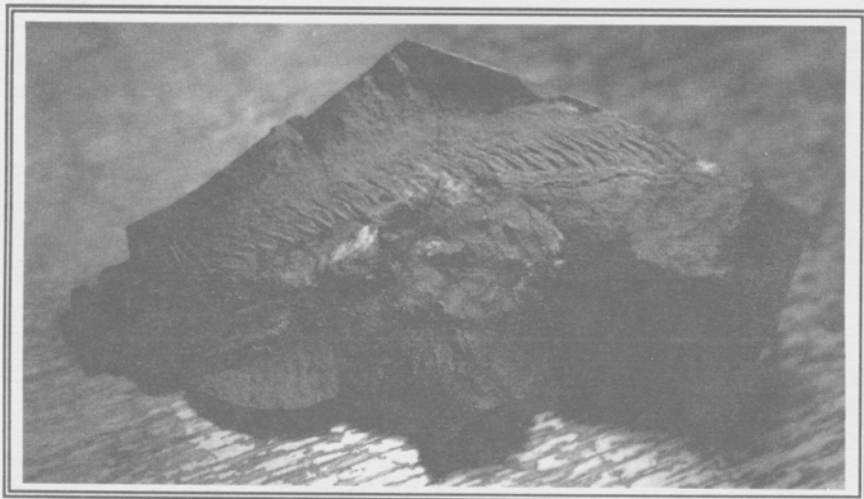
The course will accomplish several of the Museum's goals. First, in accordance with the Museum's educational purpose, it offers an artifact-based classroom and laboratory experience. It will also result in a detailed conservation survey of leather pieces in the Museum's ethnographic collection, which will guide current and future conservation activities. This course also

maintains continuity in the co-sponsored Museum/Department of Anthropology course series offered by Charles Keller, Curator of Anthropology, who is currently on sabbatical leave.

CIVILIZATION'S ATTIC

Museums have jokingly been called "civilization's attic." We accept the honor, but it doesn't mean that we are a repository of useless and forgotten junk! A long forgotten, but not lost, 300 million year old fossil fish has just proved the point.

Many years ago, Frederick R. Jelliff, of Galesburg, collected a fossil iniopterygian fish from a coal mine that was operating south of Galesburg, Illinois. Mr. Jelliff was a reporter for and editor of the *Galesburg Republican-Register* for fifty years. Also an ardent amateur geologist, he amassed an extensive fossil collection. He led groups of boys on fossil collecting trips in the countryside around Galesburg in the 1880s, despite his usual seven-day-a-week, eighteen-hour-a-day work schedule.



The Museum's iniopterygian fossil.

Mr. Jelliff joined the Illinois Academy of Science and the American Association of Science, and was at one time president of the Academy. He wrote several short papers, including one about fossil fish entitled "Fishing with a

Hammer," which expressed sentiments that would now be called environmentalism.

We are not sure how, but one of his fossils was deposited in our collection. In 1967, this specimen was borrowed by Drs. Eugene Richardson and Rainer Zangerl of the Field Museum, who were studying fossils and environments represented by distinctive black shales found just above Illinois' coal beds. These two scientists eventually produced a famous monograph on the subject and proceeded to other work. In 1981, after Dr. Richardson's death, the Field Museum returned the fossil to us.

Drs. Zangerl and Richardson had recognized the fossil as an unknown cartilaginous fish of the order Iniopterygia, but they could not describe the new genus and species on the basis of our incompletely-preserved specimen. This spring, however, Dr. Zangerl, who is now retired, asked to work with our specimen. New materials collected in Indiana had been given to him for study and he now has

enough material to describe and interpret the new fish species properly.

Over 100 years after it was found, a fossil collected by a dedicated amateur and quietly saved in our collections, is now expanding

our knowledge of ancient fishes—a good example of the value of responsible amateurs to field natural history and the importance of museums as the "attics of civilization."

FALL FIELD TRIP

Our October "Friends Excursion" to Dickson Mounds and the Illinois State Natural History Survey Havana River Laboratory, all near Havana, Illinois, was devoted to seeing as much as possible of Illinois Valley's history, from the Ice Age to the present.

The morning was spent viewing the outstanding museum displays, including excavations of a Mississippian (agricultural Indians of the 10th-15th centuries) site, at Dickson Mounds Museum. While at Dickson Mounds, we also got an over-view of the present Illinois River Valley and its famous floodplain lakes. We also talked about the valley's descent from the ancestral Mississippi and Teas rivers, which joined in this vicinity.

After lunch, we proceeded to the Havana River Laboratory where participants walked through the floodplain forest, examined the lakes and streams, and did some bird and animal watching, not to mention finding the vegetation in its bright autumn colors.

RECENT MUSEUM PUBLICATIONS

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Brewer, D. 1988. Fish stories and tall tails. *The Egyptian Studies Association* 4: 4-6.

Brewer, D. 1989. *The Fishes of Ancient Egypt*. Aris and Philips, London.

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Busack, S. D.; B. G. Jericho; L. R. Maxson; T. Uzzell. 1988. Evolutionary relationships of salamanders in the genus *Triturus*: the view from immunology. *Herpetologica* 44: 307-316.

Getz, L. L. 1988. Introduced European slugs on Mackinac Island, Michigan. *Walkerana* 2: 301-303.

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Keller, C. M.; P. Benson. 1989. Ignatius Streibich, blacksmith. *The Chronicle of the Early American Industries Association* 42:4749.

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Kluessendorf, J.; D. G. Mikulic. 1989. Bedrock geology of the Door Peninsula of Wisconsin. *Wisconsin's Door Peninsula, a Natural History*, J.C. Palmquist, ed., pp. 12-31. Perin Press, Appleton, Wisconsin.

Langenheim, R. L. 1989. Triassic. *Encyclopaedia Americana*. Grolier, Danbury, Connecticut.

Langenheim, R. L. 1988. Cretaceous. *Encyclopedia Americana*. Grolier, Danbury, Connecticut.

McGowan, K. P.; C. B. Stout. 1988. Early Woodland reflections. *Midcontinental Journal of Archaeology* 13: 69-79

Mikulic, D. G.; J. Kluessendorf. 1989. Subsurface stratigraphic relationships of Upper Silurian and Devonian rocks in Milwaukee County, Wisconsin. *Geoscience Wisconsin* 12: 1-23.

Roadcap, G. S., J. C. Yarnold; R. L. Langenheim. 1988. Brachiopods in the basal Desmoinesian at Arrow Canyon, Clark County, Nevada. *Transactions of the Illinois State Academy of Science* 81: 231-245.

MERLIN RAYMOND LEE, 1928-1989

The Museum was saddened by the death, in early July, of Curator of Mammals Ray Lee. Ray was appointed Curator in 1983, following Don Hoffmeister's retirement as Director and Curator of Mammals.

Ray was trained in mammalogy at the University of Utah, studying under Stephen D. Durrant. He then spent a year collecting mammals in

Mexico for the University of Kansas. He came to the University of Illinois in 1961, first to work in the Museum and then as a faculty member in the Department of Zoology (later Ecology, Ethology, and Evolution).

Ray's early research emphasized traditional skin-and-skull mammalogy, but with time, he became one of the foremost exponents of using chromosomes (karyology) to study speciation and phylogeny in mammals. During his research career, he published over 30 papers, half of them using karyology.

Ray frequently taught a mammalogy course at the University and regularly taught organic evolution. Many of the students in these courses worked on independent projects in his laboratory or undertook graduate projects with him.

During his time at the University of Illinois, he served as advisor for nine master's degree students (Lynn Pflaum '68, John Krebs '73, Marcus Ginder '76, Lynn Martin '78, Catherine Machalinski '82, Franklin Johnson '83, Susan Lundgoot Ventura '84, Richard Green '86, David Nelson '89) and five PhD students (Earl Zimmerman '70, Clara Huheey Donaldson '72, Frederick Elder '78, William Modi '84, Mark McKnight '89); he served on over 40 other doctoral committees.

Ray was well liked by both students and faculty at the University of Illinois. His amiability and compassion made him especially popular with both undergraduate and graduate students. He is even more missed as a friend and colleague than as our Curator of Mammals.

NEW MAMMAL SPECIMENS

David Nelson, curatorial assistant at the Museum, has been busy with our mammal collection. As a result, nearly 800 new specimens have

been added since August, bringing the total to over 60,900 cataloged mammals.

Dave has been identifying mammal specimens, adding each to the catalog, cleaning muscle and other tissues off skulls (with some help from the Museum's dermestid colony), recording a museum number on the skull and tags and, finally, placing each specimen in its proper place in the collection. Dave finds identification the most enjoyable part of the process, although some groups like harvest mice (*Reithrodontomys*) are frustrating, because differences between species are subtle and slight.

Most new specimens come to the collection from two kinds of studies. One kind of study extensively examines a certain kind of mammal. For example, more than 200 of the new specimens are pocket mice (*Perognathus*) from Mark McKnight's dissertation research; these are especially valuable because so much is known about their genetics from Mark's work.

The second kind of study surveys the mammals in a geographic area. The latest additions to the collection consist of about 500 specimens that Woodrow Goodpaster collected in seven states, including Alaska. Mr. Goodpaster's contributions over the last forty years have been the cornerstone in our building one of the largest university mammal collections in the country.

Dave is supported by two small contracts from the U.S. Army Construction Engineering Research Laboratory to Ray Lee. Among other activities, Dave also curates the CERL mammal collection, and is preparing two manuscripts based on its specimens. One of these is a study of the variation between 113 *Cryptotis parva* specimens from near Shelbyville, Illinois; a second is a summary that extends known ranges of mammals from Ft. Irwin, California, and Pinyon Canyon, Colorado.

PLANT DOMESTICATION LIBRARY TRANSFERRED TO THE MUSEUM

The University of Illinois has several important natural history collections besides those in the Museum of Natural History. One is the crop domestication herbarium currently housed in the School of Agriculture's Department of Agronomy.

ronomy. An adjunct to this collection, a set of reprints and papers on various aspects of crop domestication, has recently been transferred to the Museum of Natural History. This library—important to faculty and students in the departments

ments of Plant Biology and Anthropology, as well as the Museum—will be cataloged and made available to interested scientists on the campus. It will eventually be incorporated into a working Museum library.

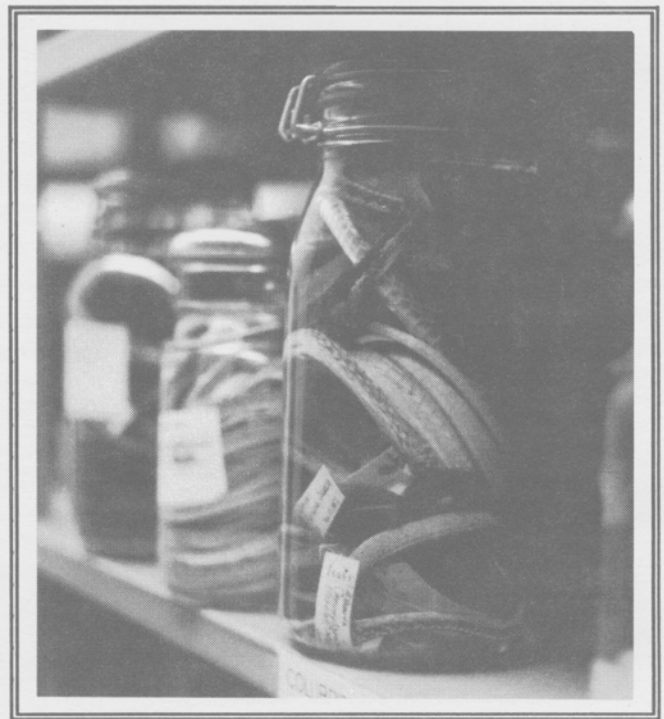
CONSERVATION GRANT

The Institute of Museum Services has awarded the Museum \$2,500 primarily for conservation of the herpetology collection. This will allow us to exchange alcohol on many of the specimens. This is part of a program to inspect the collection for excess formaldehyde. Herpetologists have used formaldehyde as a preservative for many decades, but it is a hazardous chemical, and must be carefully removed from field samples when they are incorporated into the collection.

As far as we know, this was usually done carefully, although the metal storage tanks may once have been topped off with formaldehyde solution. As part of our survey, we had the air in the collection room monitored for traces of formaldehyde, and students working in Curator of Anthropology Charlie Keller's museum course have tested all tanks and a systematic sample of jars with test strips sensitive to low concentrations of formaldehyde. So far, none has been found.

There's a Catch-22 in this award: in order to open jars, either to test the contents for formaldehyde or to change the alcohol (and, of course, when we open the jar to study the specimens), we must replace the sealing gasket. Many of our jars have small openings, and require specially-made gaskets. For many years, these were cut from neoprene tubing, but the formulation for neoprene has changed over the years to include anti-oxidants that protect neoprene from atmospheric ozone. Conservationists studying museum collections have recently discovered, however, that the

anti-oxidants that protect the gaskets are themselves damaging to the specimens. We'll let you know in the next newsletter how we solved this problem, if we have by then.



Right: Specimen jars in the Museum's nationally-ranked Herpetology collection.

FRIENDS AND VOLUNTEERS

The Museum has a growing number of friends helping us achieve our goals and improve our programs. Some of our supporters contribute directly to the Museum, but others make their donations through

the Liberal Arts and Sciences Annual Development Fund. Still other individuals donate their time to the Museum, helping with projects and programs. Their support is important and very much appreciated.

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 Lowell Getz

Charles Keller

Ralph Langenheim
 Charles Stout

SECRETARY

Darlene DeVore

DIRECTOR

Thomas Uzzell

COLLECTION INFORMATION ENTERING COMPUTER DATA BASES

Page of the Museum's Herpetology catalog.

The Museum's research collections are enormous, and include over 450,000 specimens and objects. To help with research projects and curatorial tasks, and to

fill information requests, the Museum, with help from the University's Research Board, has begun a systematic program to build a data base of its collections.

For most of our collections, specimens are cataloged in large, specially-made ledgers with numbered spaces for entering information about a specimen. Individual specimens are marked with the catalog number so that data associated with them can be located.

The loss of these treasured original catalogs would greatly reduce the value of the collections, but as valuable as they are, they often make unsatisfactory working tools for Museum curators. It is often unsightly to keep them current with new research as old names are scratched out and new ones entered. Also, if a curator needs a list of specimens from a particular geographic area, all specimens of a certain kind, or all collected by a certain individual, the numerical sequence in the ledgers is of little help.

Traditionally, Museums have relied on cross-reference files made on 3 x 5 cards to help with such

data. As collections grow, however, and as the number of scientists studying them increases, sorting through cards becomes more and more time-consuming. The cards have only limited utility, because information about the collection is usually limited specie's geographical listings.

Using a combination of Research Board, Federal, and Museum funds, we recently purchased a Macintosh IIx computer. Three graduate students (Lynn Wolforth, Margaret Dawson and Ilona Nacker) are entering data from collection catalogs into computer data files. At the beginning of November, 12,000 entries had been made from the herpetology collection, which could be completely entered by mid-Spring. Several days were spent working with these preliminary entries, trying test queries, sorting by genus and species to check for spelling errors, and designing printout forms that duplicate the catalog pages for final checks on accuracy.

At present, our Macintosh IIx and PC-AT computers are connected so that files

can be moved between them. The PC-AT is also connected to the University's UIUCNet for direct access to all major computer networks.



Although we try not to ask our Friends to contribute more than once each year, we slip up from time to time. If there is an asterisk next to your name on the mailing label, you are a current member; please disregard our membership envelope if you receive one with this newsletter. If you are a current member and there is no asterisk by your name, please call us at (217) 333-2517 so that we can correct our records.

MEDEL COLLECTION USED IN AUSTRIA

In the past three years, with easing of border restrictions, many individuals from Czechoslovakia have come to Vienna, some of them seeking information about their geneology. Last Summer, Dr.

Wolfgang von Hartig of the Heraldisch-Genealogische Gesellschaft in Hungary requested facsimiles of three Mendel documents in the our collection for genealogical research.

The collection, gathered by Mendel scholar Dr. Hugh Iltis, was donated to the Museum in 1955. Dr. von Hartig learned of our collection from an article written by Dr. Donald Hoffmeister and Harry Henrickson. Other facsimiles are on display in the second floor lobby of the Natural History Building.

TRAVELING EXHIBIT ARRIVES IN NOVEMBER

Not only does the Museum send out traveling exhibits (The World of Etah in now at the Dayton Museum of Natural History), it also mounts those from other institutions. The exhibit *Biodiversity in Illinois*, prepared by the Society for Illinois Scientific Surveys will be on display in our third floor gallery from 27 November through 13 April 1990.

Museum of Natural History
University of Illinois
438 Natural History Building
1301 West Green Street
Urbana, Illinois 61801

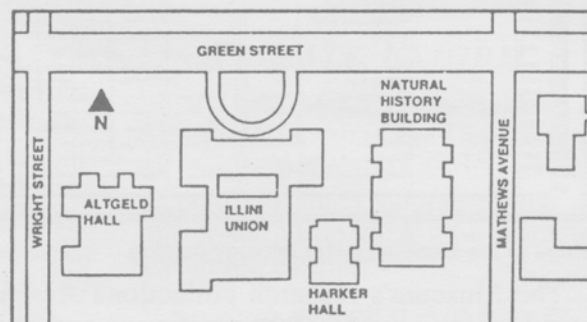
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VISITING THE MUSEUM

The Museum of Natural history galleries are located on the third and fourth floors of the Natural history Building, 1301 West green Street, Urbana. The galleries are open 9 a.m. to 5 p.m. Monday through Saturday and 2-5 p.m. Sunday, except campus holidays: Labor Day, Thanksgiving and the day after, Martin Luther King's birthday, Spring Break Day, Memorial Day, Independence Day. Other exhibits are located throughout the building's hallways.

When coming from out of town, exit Interstate 74 at Lincoln Avenue, turn south to Green Street, and west on Green Street to Mathews Avenue. Metered parking is available on Mathews Avenue, in front of the Natural History Building, at a municipal lot near the corner of Green and Sixth streets and beneath Krannert Center for the Performing Arts (enter lower level from Illinois Street).

Cathy Blaszcik, Doug Brewer, Darlene DeVore, Charles Keller, Joanne Kluessendorf, Ralph Langenheim, Donald Mikulic, David Nelson, Charles Stout and Thomas Uzzell made this Newsletter possible.



Museum of Natural History NEWSLETTER

University of Illinois at Urbana-Champaign

Volume 1, Number 8

May 1990

FUNDING FOR TOP-RANKED HERPETOLOGY COLLECTION

The Museum's collection of nearly 95,000 amphibian and reptile specimens ranks fifth among university collections nationwide.

Last fall, with University Research Board and anthropology department funding, we began capturing herpetology collection data in a computer data base. At the end of April, research assistants Margie Dawson, Illona Nacker and Lynne Wolforth had entered data for 28,000 specimens into our Macintosh Iix computer, using the Double Helix data base manager.

Early this semester, we thoroughly edited the fledgling data base to remove errors and ensure that fall semester data entry standards had been consistent. Still more editing must be done on records entered this spring, but it will be much quicker and easier because we are more familiar with Double Helix and because this program itself was recently improved.

A recent award supporting our herpetology collection contains a classic Catch-22. As we reported last fall, the Institute of Museum Services (IMS) awarded the Museum \$2,600, most of which is earmarked for replacing the alcohol preservative solution in much of the collection.

Unfortunately, we cannot replace the alcohol without also replacing the gaskets used to seal the storage jars. We had requested funding to buy these gaskets, but did not receive it because of conservationist's concerns about the synthetic rubber used to make modern replacement gaskets: anti-oxidants put in the rubber

to protect it from attack by atmospheric ozone leach into the preservative solution and damage the specimens.

This leaves us with money for alcohol but no possibility of using it. The gaskets now on most of the bottles are old and either too soft or too brittle to make a seal when the bottles are reclosed.

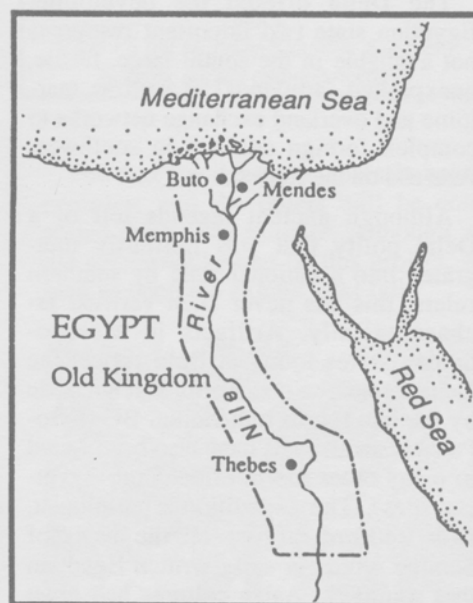
We have therefore asked the Research Board for assistance in purchasing screw-top jars having polypropylene lids and polyethylene liners. These lids make reusable seals, and are sufficiently inert so that the specimens are not damaged.



Herpetology specimens stored in glass jars filled with alcohol preservative solution and sealed with rubber gaskets.

EARLY CIVILIZATION IN THE NILE DELTA

Curator Doug Brewer and his colleague Dr. Robert J. Wenke (Department of Anthropology, University of Washington, Seattle) will head an archaeological expedition to Mendes, a large site in the Egyptian Delta, in search of answers to questions about the origin



and evolution of ancient Egyptian civilization.

The Nile Delta contains critical archaeological evidence about how its communities and those in the main valley were politically unified; how regional components of early Egyptian states were politically and economically integrated; and the importance of foreign influences on early Egyptian civilization.

Of the many Delta sites, Mendes was chosen because it is one of the largest, with extensive deposits dating between 3100 and 2100 BC, the period during which Egypt emerged as a powerful, complex, unified state. Mendes undoubtedly had strong connections to the sea and the whole of Egypt—it is only 53 miles south of the present Mediterranean coastline, and, in antiquity, was probably on a major branch the Nile. It may well have been a major connecting point between Asian and North African cultures.

Recent research indicates that, although many elements of Egyptian civilization first appeared in the south, the

focus of Egypt's development began shifting north in the fourth millennium BC.

Although this shift is most evident in the hundreds of lavish tombs, temples, towns and pyramids built in the southern part of the Delta between 2700 and 2100 BC (Old Kingdom), by 3200 BC numerous communities had already been established there. Buto, for example, located in the northern Delta, was at this time apparently a port on maritime trade routes to Uruk, to other parts of Mesopotamia and to Syria

The Delta offered the developing Egyptian state two important resources not available in the south: large, fertile, unexploited farmlands, as well as maritime and overland exchange networks to complex foreign cultures in southwest Asia and on the Aegean.

Although ancient legends tell of a Delta polity that was militarily integrated into a national state by southern rulers, this has never been verified archaeologically. Artifacts in Mesopotamian styles found at Buto reflect the Delta's role as a conduit for foreign trade by the late fourth millennium BC (Syro-Palestinian artifacts have also been found in many other fourth-millennium Egyptian sites). The expedition's philologist, Don Redford, argues on the basis of Semitic words in early written Egyptian that southwest Asian cultures had great influence on even the earliest formative stages of Egyptian civilization.

In 1989, Doug and Wenke excavated several areas of Mendes' fourth- and third-millennium BC occupations. Analysis of the ceramics from the earliest excavated levels revealed them to be nearly identical to ceramics from other Delta sites dated to around 3050 BC. Earlier occupations may underlie these "archaic" levels. The 1989 field season at Mendes proved this site to be one of the most important in the Delta for investigating the origins of ancient Egyptian civilization. This year, large-scale excavations and surveys of this ancient city are planned.

FOSSIL PROJECTS

During the past academic year, curator Ralph Langeheim and research assistant Joanne Kluessendorf have been working with fossils in the Museum and geology department collections with support from the Research Board. Most of this joint effort has involved tracking down

Dear Reader:

1990 marks an important event in the history of the Museum of Natural History: on 1 July, the Museum will become a separate unit of the College of Liberal Arts and Sciences, reporting directly to the Dean of LAS.

Throughout much of its history, and especially since Frank C. Baker was appointed its Curator in 1917, the Museum of Natural History has had close ties to zoology. Its strong research collections (amphibians and reptiles; mammals; mollusks) are all zoological, and most of the students who have earned masters degrees and doctorates in the Museum have been zoologists.

Although the Museum will move out of the Department of Ecology, Ethology, and Evolution, which it joined in 1983; and out of the School of Life Sciences, which has been its home since 1962, it needs to maintain close and cordial relationships with both of these units. Curators of its research collections must be tenure-track faculty in an affiliated department. They must also be first-rate scholars and teachers. They must understand the value of traditional museum collections while conducting the most up-to-date museum research. When curators are eventually appointed for our zoological collections, they will be exceptional individuals that will help renew the ties between the Museum on the one hand and SOLS and its departments on the other.

In the meanwhile, several advantages arise from our new position. We can continue to develop our ties with the departments of Anthropology and Geology; our curators in these areas will no longer be in the anomalous position of having half-time appointments in the School of Life Sciences. More importantly, the Museum can begin to seek additional assistance from the College. In these times of tight budget, such assistance will grow slowly, but requests for both recurring funds and nonrecurring funds can now be considered at the College level.

The first such benefit comes at the beginning of June: because the SOLS business office will no longer handle financial and personnel matters for the Museum, we will have a full-time rather than half-time secretary for the Museum. I'm delighted to say that Darlene Devore has agreed to fill in the extra hours. In and among all of her present services for the Museum, she has already begun to take informal courses to learn the intricacies of the University bureaucracy.

Sincerely Yours,

Thomas Uzzell
Director

and organizing Pennsylvanian brachiopod collections from the Midwest and Nevada, and completing curation of an important collection of Tertiary corals, foraminifera and other fossils from southernmost Mexico.

The Mexican, Chiapanecan, fossils are the subject of a monograph that has become a standard reference for western Caribbean geology. Completed just before the last Mexican oil boom, this book has been in great demand and there have been many requests to borrow and work with materials from this collection.

The brachiopods from Nevada are part of an extensive collection from Arrow Canyon near Las Vegas. The exceptionally-complete, readily-accessible and

abundantly-fossiliferous Pennsylvanian sequence at Arrow Canyon is under consideration as an international standard of reference for rocks of Pennsylvanian age. Therefore Ralph and Joanne are working diligently to finish publication of their studies and organize and document the collection for permanent reference.

Nevada brachiopod collections include about 300 illustrated or cited specimens and about 50 primary type specimens. One extensive taxonomic paper and two other short papers have already been published, another of over 100 manuscript pages is undergoing editing, and five more are in preparation. In addition, three stratigraphic accounts are already published and a third is in press.

HOFFMEISTER'S ILLINOIS MAMMALS

The Mammals of Illinois, the latest book by Director Emeritus Donald F. Hoffmeister, was not available before the last *Newsletter* went to the printer. It is available now at the Museum *Gift Shop* for \$34.95.

This 348-page hardcover volume has 16 pages of color plates illustrating 52 mammal species, 250 line drawings, 60 black-and-white photos and 60 range distribution maps.

Drawing on 40 years of study, Don's book is the first comprehensive account of the habits, habitats and ranges of Pleistocene through modern Illinois mammals. It includes sections on game and endangered species.

Early last December, Don presented a slide talk introducing his book. Following Don's talk, the Museum and the University of Illinois Press, which published the book, held a reception for Don in the fourth floor gallery of the Museum. Twenty autographed copies of the book were purchased at the reception.

PYSANKY— A COLORFUL EVENT

The Museum's annual traditional Ukrainian Easter Egg decorating (Pysanky) demonstration by Vera Samycia was once again a success, attended by over 140 children and adults. Fifty individuals participated in the workshop, directed by Natalia Lonchina and members of the University's Ukrainian Student Association. Plan to join us next year.



Pysanky by guest speaker Vera Samycia displayed during her demonstration of traditional Ukrainian Easter Egg decorating.

ANTHROPOLOGY INVENTORY READY FOR COMPUTER DATA BASE ENTRY

An inventory of the Museum's anthropological material was completed at the end of last fall semester. The inventory, begun in 1987, was the first phase of an effort to establish a complete computer data base of these materials. In the past two years, over 40 students have participated in the project through the museum course or independent study, or by volunteering in the collections.

The U.S. Geological Survey donated some of the first specimens in this collection in 1882. These include models of Hopi cliff dweller structures from the Southwest, and Zuni and Moki ceramics collected by the Powell Expedition in 1880.

"Although quantities of additional artifacts have been added over the years, cataloging these specimens has not been done consistently," says curator Charlie Keller, noting that the last entry date in the anthropology catalog was made in 1955.

Approximately 700 forms containing information on the location, condition, provenience, identification and picture of specimens or groups of specimens have been completed. These are the first formal records for many specimens.

EXHIBITS

● Last February, several of the Museum's Papuan artifacts were displayed at Krannert Art Museum and Kinkead Pavilion in the exhibit, *Oceanic Art from the University of Illinois Collections*. A short article on this exhibit made the front page of *Illini Week*.

● The final modular façade for our new ethnographic exhibits was completed this spring. The preparation of these cases is partly funded by a grant from the Illinois Humanities Council. Installation of Papuan, Mesoamerican and New World arctic artifacts and accompanying text and graphics will begin this summer.

Anthropology graduate assistants Rosa De Jorio and Karl Lorenz have done extensive research on activities depicted in the Museum's large photo collection of Greenland natives, some of which will be included in the new cases.

The Museum Shop

offers a wide selection of natural history & ethnographic items

- Dinosaurs • Books • Posters • Puzzles •
- Games • Notecards • Mugs •
- Minerals & Fossils • Educational Items •
- Handcrafted Jewelry & Crafts from around the World •
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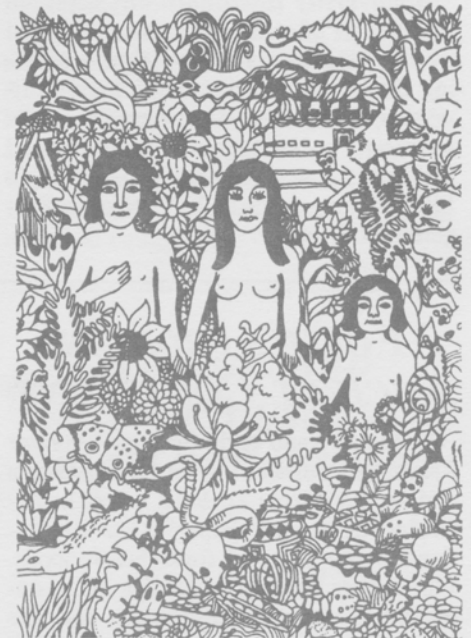
Gift certificates are available
—10% discount for Museum Friends—

located inside the 3rd Floor entrance to the
Museum of Natural History in the Natural
History Building

Hours:

9 am - 5 pm Monday-Saturday & 2-5 pm
Sunday, except campus holidays

The text for the arctic cases is nearly complete and the others will be completed during the summer. Although we are somewhat behind on this project, we plan to open the exhibit next fall.



● Anthropology graduate student Deborah Bakken and her small crew of volunteers have finished one section of the Museum's new *evolution* exhibit scheduled to open next fall.

This exhibit will take into account new methods and discoveries in biological anthropology not available when the previous exhibit was installed. It will also use modern text and graphics to explain current understanding of primate evolution and of evolution in general. When completed, this exhibit will be an important part of our public programming, as well as a supplement for intro-

ductory anthropology, biology and geology courses.

This April, paleoanthropologist Geoffrey Pope of the University's anthropology department presented a lecture entitled "Eve and the Origin of Modern Humans," to kick off a fund-raising effort in support of this exhibit.

● This past spring, the museum was fortunate to have two temporary exhibits in its third floor gallery. The traveling exhibit, *Biodiversity in Illinois*, was prepared for and by the three state surveys (Natural History, Geology and Water) with support from the Friends of the Surveys and the Marine National Bank. Displayed December through February, it was one of our most successful temporary exhibits, and was the subject of a feature article in *Illini Week*.

This exhibit was accompanied by a set of educational packets that we distributed to area high school science programs to prepare students before visiting.

Biodiversity in Illinois was replaced by a series of mounted posters designed by the Smithsonian Institution presenting the global decline in biological diversity. The posters were supplied by the university's Institute of Environmental Studies to accompany this spring's MillerComm series of lectures on endangered biodiversity.

FOSSILS FROM AN ANCIENT CONTINENT

In January and early February, curator Ralph Langenheim traveled to Tasmania and southern New Zealand, where he delivered an invited paper at an international symposium on fossil brachiopods. While there, he took advantage of the opportunity to collect fossils for the Museum from the Carboniferous through Triassic periods (345 to 195 million years ago).

The fossils are the remains of animals that lived in the seas surrounding the ancient continent of Gondwana, which split to become Africa, Antarctica, Australia, India and South America; at that time, Gondwana occupied a South Polar position and supported extensive continental glaciers.

Many of these animals apparently lived in seas beneath shelf ice comparable with the present Ross Shelf in Antarctica. All of them belong to

species and larger taxonomic groups that are not found in the Northern Hemisphere; their absence from Laurasia, the ancient continent that split into Asia, Europe and North America, has made it difficult to correlate the history of the two ancient supercontinents.

These fossils are poorly represented in North American collections, and comprise a useful addition to the store of materials available for comparative study here. Some of them are bizarre in form. Some may eventually appear in the Museum's exhibits.

PASS IT ALONG

When you're finished with this newsletter, pass it along to someone else who would like to know about the Museum. If you let us know, we'll be happy to add his or her name to our mailing list.

ASC BOARD LOOKS AT ENVIRONMENTAL RESPONSIBILITY

In late November, director Thomas Uzzell was in Washington, DC, attending the board meeting for the Association of Systematics Collections (ASC), an organization of science museums, societies and collections interested in systematic biology.

These meetings covered several policy matters, including the National Science Board's report recommending significant funding within NSF for biodiversity studies, perhaps to annual levels approaching \$5 million. The report recognizes the extent of lost biological diversity resulting from human activities and how little is known about disappearing groups. Since no complete tabulation of the world's plant and animal species has been made, many are becoming extinct without ever being studied for basic biology or potential usefulness—many without even being noted.

Another concern was the role of systematists and systematic collections in conservation. Although conservation has not been a primary goal of systematists,

they have been crucial in identifying and documenting the distribution of rare and endangered living species.

The data contained in systematic collections provide most of what we know about the past and present distributions of species, rare or common. These data are often used by conservationists without recognition or acknowledgement of the enormous effort expended by systematists in assembling and studying the collections from which the data are drawn.

The ASC provides many useful services to systematic biologists (publishing checklists and conservation manuals, sponsoring workshops, etc.). Other important functions include lobbying in congress for systematics funding and legislation and providing expert testimony on matters pertaining to systematics and systematic collections.

ON-SITE MAMMALOLOGY LIBRARY BEGINS WITH GIFT

With great kindness, Shirley Lee recently gave to the Museum books, journals and reprints about mammalogy and evolutionary biology in Ray Lee's library. Included are 2,500 reprints and books, as well as long series of the Journal of Mammalogy and the Proceedings of the Biological Society of Washington. All of the books are being stamped to indicate that they came from the Lee library.

Although the University of Illinois library contains almost everything of interest to the students, staff and visitors, on-site working libraries are essential to effective use of research collections. We are therefore particularly grateful to Shirley for giving us this set of papers and books, which are the basis on which the Museum's mammalogy library will grow.

Ray served as the Museum's Curator of Mammalogy from 1983 until his death in 1989.

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LOOKING AT 19TH-CENTURY INDUSTRY

This semester, curator Charlie Keller has been analyzing the daybooks of N. Smith, who ran a wholesale and retail tinware and metalworking business in Vincennes, Indiana, during the 1840s. Smith's business transaction records were made available by his descendant Dennis Smith, a graduate student in the geography department and former Museum volunteer.

Tinware was a very popular 19th-century material for kitchen and household goods. Although plating techniques had been known for centuries, rolling mills that could produce thin sheets of iron to be coated with molten tin were not perfected until the 1790s. By the 1830s, tinplate production was well established in the United States, and the material became the "plastic" of its day—many light and inexpensive items were made

TIN, SHEET IRON AND COPPER Manufactory.



N. SMITH

CONTINUES to carry on the above branches in all their variety, at his NEW BRICK SHOP, on Market street, nearly opposite the market-house, where he will be glad to accommodate his old customers and the public generally, at wholesale or retail. He has also on hand a number of

Rotary Cooking Stoves,

Which he will dispose of on accommodating terms.

Vincennes, 4th Nov. 1835. 42 if

from it. Smith's daybooks provide a fascinating glimpse of the flourishing trade in tinware and other contemporary materials.

Accomplished by creating a list of the various kinds of transactions in the daybook and drawing a random sample of the 3,500 entries recorded between 1840 and 1842, this analysis documents the range of work done at Smith's establishment and the frequency with which particular items were sold or jobs done.

Andrea Tirva, an independent study student in the anthropology department, helped with the background library research and entering the daybook information into a Museum computer database.

Charlie travels this month to Massachusetts, where he will examine collections at Old Sturbridge Village, continuing a study begun last year of the 19th century shift from craft to industrial production of tools.

While in the East, he will also attend the annual meeting of the Early American Industries Association in Mystic Seaport, Connecticut. Mystic Seaport is a "living history" museum with extensive collections of 18th- and 19th-century shipbuilding and sea-faring tools and equipment.

HEIGHTENED CONSCIOUSNESS ABOUT BIODIVERSITY BRINGS LECTURES & EXHIBITS

An increasing variety of environmental concerns, such as acid rain, global warming, loss of biodiversity, and exploitation of non-renewable resources, are gradually making their way into our consciousness, and the 20th anniversary of Earth Day provided a focus for many talks and exhibits on these matters. With whatever resources we command, the Museum has tried to increase awareness of these problems.

December through February, the Museum displayed the exhibit *Biodiversity in Illinois*. The Smithsonian Institution poster series on biodiversity problems noted in the *Exhibits* column

provided a backdrop for the receptions in the Museum for the five speakers in the MillerComm 90 Biodiversity lecture series initiated by Chancellor Morton Weir. The Museum was a co-sponsor of the lecture series.

Speakers and lecture titles for the MillerComm 90 biodiversity series:

Peter Raven (Director of the Missouri Botanical Garden) "Loss of biological diversity: The threat to the living world"

David Jablonski (Associate Professor of Geology at the University of Chicago), "Extinction in the fossil record: Lessons from the past"

Jared Diamond (Professor of Physiology at the University of California at Los Angeles), "The future of New Guinea, a biological treasure house"

Russell Mittermeir (President of Conservation International) "Conserving biological diversity in the tropical rainforest: The challenge of the 90s"

Alan Templeton (Professor of Biology and Genetics at Washington University) "Preserving our planet's rich genetic diversity"



Last February's reception for the *Biodiversity in Illinois* exhibit.

MUSEUM CLASS SWELLS

For the past several years, curator Charlie Keller has offered a popular anthropology class in the Museum. This semester's enrollment was the largest to

date, with 25 undergraduates coming from the colleges of Liberal Arts and Sciences, Business Administration, Fine and Applied Arts, Education and Engineering.



Pre-Columbian pottery vessel from Mexico photographed this spring for our collection records by the museum class.

Jointly taught this semester with curator Chuck Stout, Charlie's course covered a broad range of topics including metallurgy in the Old and New Worlds, museum illustration techniques, metal and wood artifact conservation, basic museum publicity and fund-raising, and exhibit and education programming.

The students wrote critical summaries of articles selected from various museum publications, and in addition to classroom activities, they participated in various Museum functions such as setting up a temporary photographic studio in Harker Hall, preparing exhibits, entering bibliographic information from our Harlan reprint collection into a computer database, and greeting visitors at our Earth Day Expo booth at Market Place Mall.

For the first time, the class will be offered this year during the summer session. It will focus on research methods used to study anthropological material. Each student will be assigned one or more specimens and survey and summarize the literature relevant to it. They will also design a temporary exhibit about the specimen and write the descriptive text for the display.

Beginning with the fall 1990 semester, this course, previously offered as a special topics course or a seminar, will have a title and number of its own: "Topics in Museum Studies"—Anthropology 391.

NEW LIVING ROOM FRIENDS

The *Living Room* has added a few new friends. Volunteers Rich Poskin, who will graduate and leave us this year, and Cathy Blaszik have refurbished the 50-gallon fresh-water aquarium and added 30 new fish of various species. The swordtails made a contribution of their own—seven of their progeny.

Other additions to the *Living Room* include a pair of Madagascar hissing cockroaches and new homes for tarantulas Pedro and Charlotte. Charlotte lives in a much nicer desert than before, and Pedro's home is now a rain forest setting, thanks to Amber Woolsey.

MAMMALS

For most of this year, Dave Nelson has worked part-time in the Museum, taking care of the mammal collection. Dave has worked in and around the collection for several years now, beginning with his work on relationships of dogs, coyotes and wolves and continuing with his study of variation in migratory and non-migratory bats.

His work has involved rearranging several sections of the collection, so that new material accumulated over the past seven years could be installed in its proper place. Dave has also begun to capture the mammal collection data in a computer data base. At present, some 7,000 records (out of 60,000) have been entered. We have already answered several requests for information on our holdings from large geographic areas using the data base, and as a result, all records for Sonora, Missouri and New York have been entered into the computer.

This past spring, Woodrow Goodpaster brought a new collection of mammals for the Museum: 100 specimens representing nine genera from Florida, 30 others from Canada and Alaska. These will be catalogued and installed in the next few months.

Dave is supported by a contract from the Construction Engineering Research Laboratory. His work for them includes a study of variation in a long series of the least shrew, *Cryptotis parva*, and a report on mammals from Camp Irwin, California, with especial emphasis on variation in several forms of kangaroo rats, genus *Dipodomys*.

FRIENDS AND VOLUNTEERS

The Museum has a growing number of Friends helping us achieve our goals and improve our programs. Some of our supporters contribute directly to the Museum, but others make their donations through the Liberal Arts and Sciences Annual Development Fund. Still other individuals donate their time to the Museum, helping with projects and programs. Their support is important and very much appreciated.

In addition to supporters listed below, Martin Meyer and the University's Plant Science Laboratory donated plants to The Living Room. Heather Young donated several nature magazines to The Living Room. Maarten Van de Guchte and the Krannert Art Museum and Kinkead Pavilion are graciously storing our Papuan artifacts until ready for installation in their new exhibit. Our thanks go to each of these individuals and institutions.

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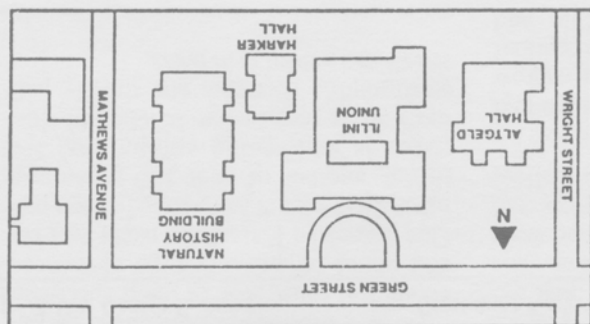
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Museum of Natural History NEWSLETTER

WHAT YOU SUPPORT

Friends of the Museum provide direct support for our programs. As your number has grown, so too has the number of projects that you support.

Beginning this year, the Friends group has made a major contribution to several projects, the most important of which was in helping the Museum obtain the Macintosh IIx computer and graduate assistants that have permitted us to start capturing the specimen data for its collections in a computer data base. Altogether, the computer, keyboard and monitor cost \$5,800. The University's Research Board provided \$3,200, the Museum's Friends, \$2,600. Another \$2,100 from the Friends

helped support two of the graduate assistants who use the computer. The matching money that you gave us, together with support from the Department of Anthropology, has allowed us to run this \$22,000 project.

The Macintosh is used virtually all of the time: when the data-base crew is absent, newsletters, correspondence and grant proposals are processed there. With more people working in and around the Museum, we need additional computers. We hope to upgrade our computer system with a network that will permit us to connect our IBM and Macintosh computers and provide a ready means for backing up our data files, and for a quality laser printer for the Macintosh.

Cathy Blaszk, Doug Brewer, Gina Brown, Darlene DeVore, Charles Keller, Ralph Langenheim, David Nelson, Rich Poskin, Charles Stout, Thomas Uzzell and Arthur Woolsey made this Newsletter possible. Edited by Charles Stout and Thomas Uzzell

The Museum of Natural History galleries are located on the third and fourth floors of the Natural History Building, 1301 West Green Street, Urbana. The galleries are open 9 a.m. to 5 p.m. Monday through Saturday and 2-5 p.m. Sunday, except campus holidays: Labor Day, Thanksgiving and the day after, Martin Luther King's birthday, Spring Break Day, Memorial Day, Independence Day. Other exhibits are located throughout the building's hallways.

When coming from out of town, exit Interstate 74 at Lincoln Avenue, turn south to Green Street, and west on Green Street to Mathews Avenue. Metered parking is available on Mathews Avenue. In front of the Natural History Building, at a municipal lot near the corner of Green and Sixth streets and beneath Kraemer Center for the Performing Arts (enter lower level from Illinois Street).

VISITING THE MUSEUM

Museum of Natural History
University of Illinois
438 Natural History Building
1301 West Green Street
Urbana, Illinois 61801

Inside:

Funding for Top-Ranked Herpetology

Collection	1
Early Civilization in the Nile Delta	1
Fossil Projects	2
A Letter from the Director	2
Hoffmeister's Illinois Mammals	3
Pysanky—A Colorful Event	3
Anthropology Inventory Ready for Computer Data Base Entry	3
Exhibits	3
Fossils from an Ancient Continent	4
ASC Board Looks at Environmental Responsibility	4
On-Site Mammalogy Library Begins with Gift	4
Museum Staff	5
Looking at 19th-Century Industry	5
Heightened Consciousness about Biodiversity Brings Lectures & Exhibits	5
Museum Class Swells	6
New Living Room Friends	6
Mammals	6
Friends and Volunteers	7

JUN 22 1991

UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN

Museum of Natural History NEWSLETTER

University of Illinois at Urbana-Champaign

Volume 1, Number 9

October 1990

ADVENTURERS

Curator Doug Brewer has returned from a successful field season at the Mendes site in Egypt's Nile Delta. Accommodations, reached in a broken down Volkswagon van, were an unpleasant flat in a little Egyptian village. Doug reports that the mosquitos were so thick at night that he could not see out of his window.

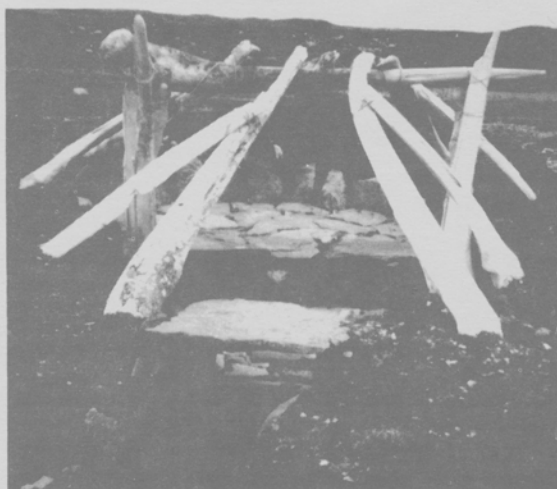
While in Egypt, Doug was informed that the National Geographic Society will provide major funding for at least another year's field work at Mendes.

The Summer's work revealed an Old Kingdom (2700-2100 BC) burial chamber or *mastaba*, and possibly an ancient harbor and a sacred lake.



Ice cap and glacier at Glacier Fiord, Axel, Heiberg Island, Northwest Territories, District of Franklin, Canada.

Last July, Curator Ralph Langenheim joined an Arctic expedition at Heiberg Island in Canada's Northwest Territories. The expedition collected important fossils from the Lower and Middle Pennsylvanian periods (310-290 million years ago) in the Sverdrup Basin.



Reconstructed whale bone igloo frame and flagstone floor (Thule culture, AD 900). One of the sites visited by Curator Ralph Langenheim while on his geological expedition to the Arctic.

Information from these new collections will help refine understanding of the basin's history and aid in mineral fuel exploration.

The expedition members had some additional goals, including the evaluation of the extensive and temporally-complete geological sequence in the basin as a potential world standard for the Lower and Middle Pennsylvanian periods (or Middle Carboniferous period).

The expedition had to keep their plans and schedules flexible because of the exigencies of helicopter availability and weather, but it was able to accomplish its main objectives.

EXHIBIT OPENINGS

On Monday, 29 October, the Museum's new ethnographic gallery and its primate evolution exhibit will officially open to the public.

The ethnographic gallery, *Traditional Nonwestern Cultures*, consists of two extensive exhibits containing objects, maps and interpretive labels depicting early 20th century life in the Arctic and in Papua New Guinea. Although most of the displayed collections date to the early 1900s, the exhibits will also present two centuries of changing ways of life as these peoples were exposed to other cultures.

The Arctic exhibit will depict traditional lifeways, including many economic and social activities, and the effects of the seasons on these activities. The exhibit will use much of the Museum's collection from Etah, Greenland, obtained between 1913 and 1917 by Donald B. MacMillan's Crockerland Expedition in search of a land mass between North America and Siberia.

The Papua exhibit will focus on relationships between groups and their varied island environment, presented through photographs, maps and most of the Museum's collection.

The greatly refurbished evolution gallery—divided into *Primate Evolution*, *Human Evolution*, *Human Bipedalism* and *Equine Evolution* cases—brings up to date the portion of the Museum's *Hall of Animals* showing relationships between modern humans, our ancestors, and other primates. Using the horse as an example, the exhibit also demonstrates general principles of evolution by depicting changes in this animal's fossil ancestors.

The evolution gallery is a giant first step in renovating displays and presenting modern interpretations of phylogenetic and evolutionary relationships of all living forms.

Improvements are also evident in other exhibits. Jennifer Distelhorst, of the ge-

ology department, obtained an award from the university's Honors Program this summer to do library research for a new mineralogy exhibit, then design and install it, replacing the dated and uninformative one dismantled in 1988. She is in the final stages of the project, and should be finished this semester.



Carved wooden shield to be displayed in the Museum's Papua New Guinea Exhibit.

Our long absent shell variation exhibit is currently being restored and will also return this semester. Parts of our prairie exhibit in the main entrance the Natural History Building will be under repair from time to time during the next few months, but most of it will be intact on any given day; visitors planning to view this exhibit should call in advance to find out what is displayed and what is not.

MUSEUM TEAMS WITH UNIVERSITY & SURVEY TO HOST 1992 HERPETOLOGY MEETINGS

The American Society of Ichthyologists and Herpetologists will meet on the University of Illinois campus 4-10 June 1992. Negotiations are underway to bring the Herpetologists' League and Society for

the Study of Amphibians and Reptiles to the campus at the same time for a joint meeting of the three herpetological societies.

The meetings are sponsored jointly by the university, Illinois Natural History Survey and the Museum.

Work currently underway in the herpetology collection—including building our computer data base, cataloging of additional material, rearranging specimens in jars to eliminate crowding and to provide tight seals on specimen jars, and updating the nomenclature as much as is possible (without the help of specialists)—should make the collection readily available to visiting scientists.

The Museum looks forward to having as many herpetologists visit the campus as possible. We would especially like for the many individuals who studied herpetology on this campus with Hobart Smith to return for a visit.

PASS IT ALONG

When you've finished with this newsletter, pass it along to someone else who would like to know about the Museum. If you let us know, we'll be happy to add his or her name to our mailing list.

STUDENT FOLLOW UP

Three students in Curator Charlie Keller's museum studies course have continued studying for museum careers. Mary K Porter (BA 1990) was accepted into the Museum Studies Program at Case Western Reserve University. She also received a graduate assistantship, which will pay for her tuition. Her first internship in the program is in the Dittrick Medical Museum, which contains, among other things, surgical tools and syringes excavated at Pompeii.

Mary K was a student in Charlie's course, held two Museum internships, and did independent research using the Museum's ethnographic collection.

Emily Schnabl (BA 1989), also one of Charlie's students, begins her second year toward a master's degree in the University of Arizona Museum Studies Program. She has been appointed Docent Program Director at the university's museum.

Amy Weir (BA 1989), another of Charlie's students, and a volunteer at Krannert and World Heritage museums, begins her second year in the Museum Studies Program at George Washington University this fall.

We would like to hear how others who have worked in the Museum are doing. Drop us a line.

QUAD DAY WINNER



Many students visited the Museum's booth on Quad Day. We had over 500 entries in our raffle for a plush stuffed leopard toy. The winner was Jason Weber.

FAREWELL

Mark McKnight and David Nelson, two of Ray Lee's last students in mammalogy, have left the campus to take positions elsewhere. Mark, who earned his PhD studying evolutionary relationships in pocket mice (*Perognathus*), has gone to a post-doctoral position with Dr. Brad Shaffer at the University of California Davis; he will be studying relationships among species of the tiger salamander (*Ambystoma tigrinum*) group in the U. S. and Mexico.

Dave, whose Master's thesis contrasted the local and geographical variation exhibited by sedentary and migratory species of bats, has taken a job with a hospital in Indianapolis.

Both of these students worked with and in the Museum's mammal collection. We

miss them both for their help, their interest and themselves.

NEW MUSEUM PUBLICATIONS

- Brewer, D. J. 1990. *The Fishes of Ancient Egypt*. American University in Cairo Press.
- Bucci, S.; M. Ragghianti; G. Mancino; L. Berger; H. Hotz; and T. Uzzell. 1990. Lampbrush and mitotic chromosomes of the hemiclonally reproducing hybrid *Rana esculenta* and its parental species. *The Journal of Experimental Zoology* 255:37-56.
- Keller, C. M. 1990. Tudor farming, Thomas Tusser and American tools. *Chronicle of the Early American Industries Association* 43:2.
- Kluessendorf, J.; and D. G. Mikulic. 1990. *Temporal Patterns: The Arthropod Trace-Fossil Record*. Short Course Notes, Paleontological Society.

NEW APPOINTMENT



Joanne Kluessendorf has accepted a 25% appointment at the museum as Curator of Exhibits.

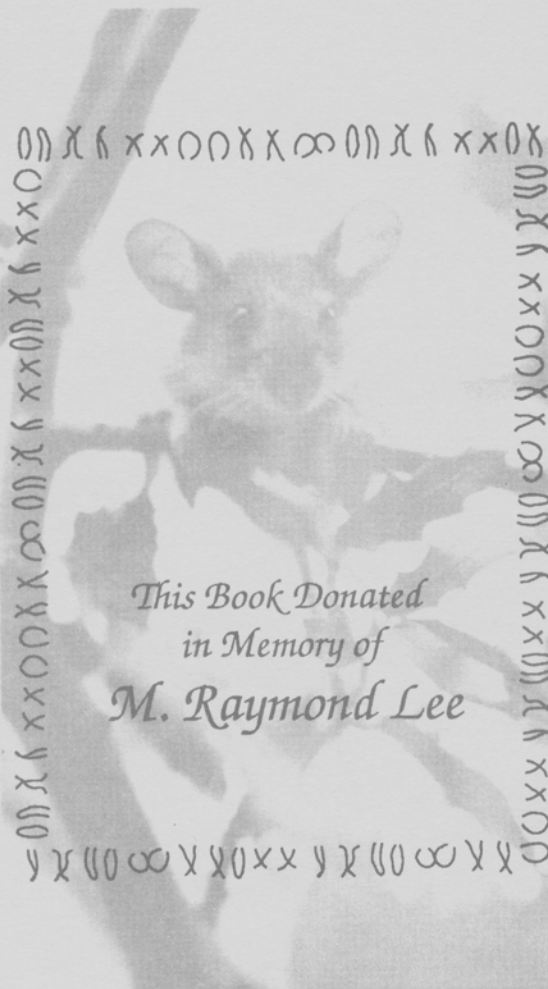
Joanne was also appointed Research Associate, and has begun writing proposals for post-doctoral research in geology. In the past, Joanne has had Museum teaching and research assistantships, and has been a regular volunteer as the Gift Shop manager and purchaser.

Joanne will continue to work in the Gift shop, but her exhibit and education

appointment will fill in the gap left by Curator Chuck Stout's reduced appointment, requested for family reasons.

BOOKPLATE

A photograph of a cactus mouse (*Peromyscus eremicus*) surrounded by the individual mitotic chromosomes of *Peromyscus gratis* mark the bookplate designed by Vicki Outerbridge. These bookplates are being attached to the many books given to the Museum of Natural History by Shirley Lee from her late husband's library.



Ray Lee, our former Curator of Mammals, was a specialist in the use of chromosomes to explore the evolution and relationships of mammals. The karyotype of *Peromyscus gratis*, which he studied with his student William Modi, was one of his many contributions to this field.

COMPUTER GROWTH, HELPFUL BUT SLOW

In July, the Museum upgraded its computer equipment with a Laserwriter II for the Macintosh and an I-Omega Bernoulli Box II cartridge drive for the IBM.

The Museum's Macintosh is used almost constantly for collection data-base management, as well as for preparing exhibit text and graphics, correspondence, grant proposals and newsletters. Before this summer, we had to obtain printed copies of our work from other facilities, especially inconvenient in exhibit and newsletter preparation, because Macintosh hard copies differ slightly from printer to printer all over campus.

This newsletter, our new membership envelope and upcoming brochures have all been prepared in-house on our own laser printer.

The Bernoulli Box cartridge drive was added to safeguard the Museum's extensive and growing collection records. It will record as much as 44 megabytes of information at a time, providing crucial back-up files to ensure against loss of data.

With increased development and collection staff working in the Museum, we are already developing a backlog of computer work. We are, therefore, turning our attention to further upgrades of our computer facilities, including the purchase of more units.

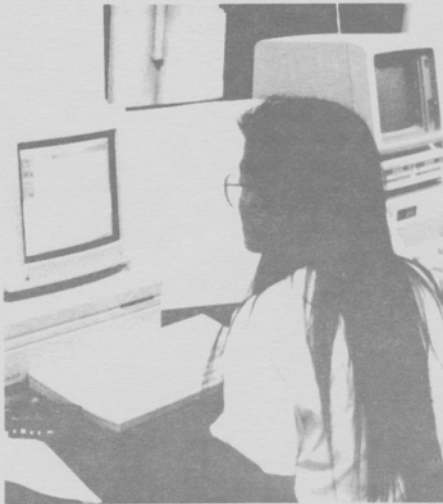
COLLECTIONS: THE GOOD, THE BAD & THE UGLY

The good: Many positive things can be said about the specimens the Museum keeps for study and display: three of our research collections are ranked in the top-five university holdings, our records are quickly being placed in a data-base management computer program, and much more.

A number of recent appointments are contributing to these good aspects of our collections. Research Assistant Inui Choi, doctoral student in the anthropology department, has received a 25%-time appointment to continue building the Museum's collection computer data-base. In the first three weeks of the fall semester, she has added 6,000 entries, bringing the total number of entries to 32,600.

Two LAS undergraduates have received 25%-time appointments to assist Director Thomas Uzzell and Curator Doug Brewer on a conservation project in the Museum's nationally-ranked herpetology collection. Aine Shiozaki (political science) and Emily Yep (anthropology) will be checking and maintaining preservative levels, moving specimens to safe storage containers and replacing any formaldehyde solution we may find in the collection. We hope to have a third student working soon. This project was supported in part by discretionary funds of the the Dean of the Graduate College and by an Institute of Museum Services Conservation Grant.

Most of the Museum's amphibian and reptile specimens are kept in an ethanol and water preservative solution in glass jars. Because rubber jar seals harden with time, they must be replaced when preservative fluid is added or changed. Unfortunately, proper seals cannot be obtained for two sizes of existing jars, and specimens must be moved to new jars for which seals are available.



Inui Choi entering herpetology collection data into a computer data base.

Teaching Assistant Austin Leyden received a 25%-time Museum appointment from the anthropology department. Much of his time this fall will be spent deciphering and entering bibliographic data for the Museum's plant domestication library. Austin will also be helping with display objects and records for the new Arctic and Papua exhibits.

Ultraviolet light damages both the color and integrity of museum objects, particularly specimens like birds and textiles. The Museum received funding last year to greatly reduce the levels of ultraviolet light in the fourth floor gallery by installing filters on fluorescent case lights and opaque shields on windows, the two

greatest sources of ultraviolet light. Summer session interns Susan Bushur, Emily McEwan, and Amy Pine, and students in Curator Charlie Keller's fall semester museum class have nearly finished installing the ultraviolet light filters. Work-study student Jeff Johnson is finishing the shields for installation as this article is being written.

The bad: On the other hand, we have some urgent problems, including a lack of climate control throughout the Museum, but particularly in the herpetology, mammalogy and malacology collection areas. Humidity and temperature fluctuate widely in these areas, endangering these nationally-ranked collections. We are currently seeking from the university and outside funding agencies support for air conditioners in these collection areas. Humidity monitoring equipment would also be useful.

The ugly: Already short of space and forced to use horribly inadequate collection storage space in the basement of Lincoln Hall, the Museum will lose its malacology range in Harker Hall this year to the university's Foundation. So far, no acceptable alternative facility has been offered or suggested.

NEW GOALS WITH EXPANDING ROLL: DEVELOPMENT OFFICER NEEDED

The Museum's teaching, research and community service activities are constant-

The Museum Shop

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- Dinosaurs • Books • Posters • Puzzles •
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ly expanding to meet the needs of a growing and diversifying audience. For the past four years, Curator Charlie Keller has taught a special topics course focusing on museum studies. This course has become so popular that it is now also taught during the summer session. The museum has also provided several undergraduate internships each of the past three summer sessions.



Students installing ultraviolet filters in cases.

(continued on page 6)

5 FRIENDS

The Museum has a growing number of Friends helping us achieve our goals and improve our programs. Some of our supporters contribute directly to the Mu-

seum, others make their donations through the Liberal Arts and Sciences Annual Development Fund, and still others donate their time, helping with pro-

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**Museum of Natural History
University of Illinois
438 Natural History Building
1301 West Green Street
Urbana, Illinois 61801**

**Non-Profit Organization
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(Continued from page 4) Three of our research collections (herpetology, malacology and mammalogy) are nationally ranked among the top five university collections. In the past five years, we have added research associates to the staff to expand the extent of study and care our collections receive. Our important molecular phylogeny collection contains frozen antisera, antigens and tissue samples for protein electrophoresis and nucleic acid sequencing for examining genetic relationships between animal taxa.

Museum staff members regularly participate in public service activities such as local school science fairs. We recently began a speaker program making our specialists available to present lectures and slide shows to community groups and organizations.

Returns on development efforts begun in 1985 have doubled each of the last four fiscal years, supporting Museum programs and development activities themselves. Nevertheless, we have greater responsibility than ever before, now that we have become an independent unit within the university's College of Liberal Arts and Sciences. This expanding roll will require increased fund raising efforts. This fall, Mary Levin, has volunteered to help with publicity and development projects.

Development efforts, however, place a burden on our small staff, a situation that will be exacerbated with continued growth. We are therefore trying to create a position for a professional development officer who can redouble our current fund-raising efforts and allow us to achieve long-term goals while meeting existing commitments.

We are applying this fall for funding to support a development position for one year, with the goal of eventually making the position self-supporting.

INSIDE THIS ISSUE

<i>Adventurers</i>	1
<i>Exhibit Openings</i>	1
<i>Herpetological Meetings...</i>	2
<i>Student Follow Up</i>	2
<i>Farewell</i>	2
<i>New Museum Publications</i>	3
<i>New Appointment</i>	3
<i>Bookplate</i>	3
<i>Computer Growth...</i>	3
<i>Collections...</i>	3
<i>...Expanding Roll...</i>	4

VISITING THE MUSEUM

THE MUSEUM of Natural History galleries are located on the third and fourth floors of the Natural History Building, 1301 West Green Street, Urbana. Other exhibits are located throughout the building's hallways.

The galleries are open 9 am to 5 pm Monday through Saturday and 2-5 pm Sunday, except campus holidays (Labor Day, Thanksgiving and the day after, Martin Luther King Day, Spring Break Day, Memorial Day, Independence Day).

When visiting from out of town, exit Interstate 74 at Lincoln Avenue, turn south to Green Street, and west on Green Street to Mathews Avenue. Metered parking is available on Mathews Avenue, in front of the Natural History Building, at a municipal lot near the corner of Green and Sixth streets and beneath Krannert Center for the Performing Arts (enter lower level from Illinois Street).

CALENDAR OF FALL EVENTS

Trip to Brookfield Zoo—7 am, 14 October

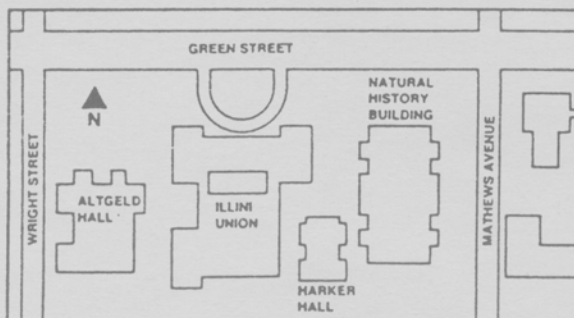
Lecture: *Giant Pandas, Early Ancestors and Evolution in China*, by Huang Wanpo, Institute of Vertebrate Paleontology, Academia Sinica, Beijing—4 pm, 24 October, 228 Natural History Building

Exhibit Opening Reception—2-5 pm, 28 October, 3rd & 4th floor galleries, Museum of Natural History

Beth Alford, Doug Brewer, Darlene DeVore, Charles Keller, Joanne Kluessendorf, Ralph Langenheim and Dee Robins helped make this *Newsletter* possible— Charles Stout and Thomas Uzzell, editors



Although we try not to ask our Friends to contribute more than once each year, we slip up from time to time. If there is an asterisk next to your name on the mailing label, you are a current member; please disregard our membership envelope if you receive one with this newsletter. If you are a current member and there is no asterisk by your name, please call us at (217) 333-2517 so that we can correct our records.



Museum of Natural History

JUN 22 1991

UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN

NEWSLETTER

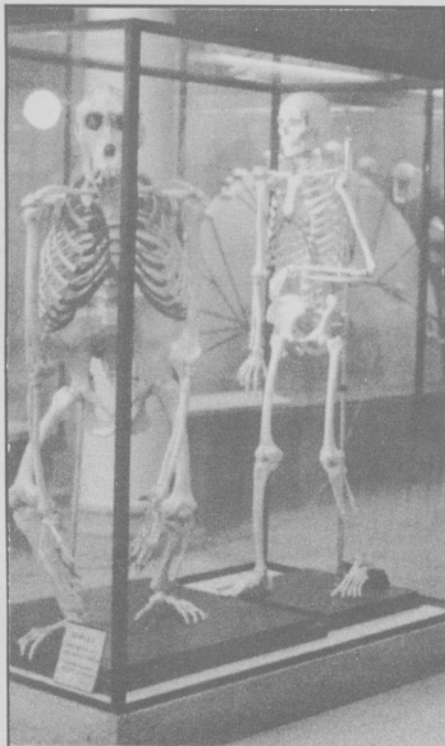
University of Illinois at Urbana-Champaign

Volume 1, Number 10

May 1991

**A CASE OF MUSEUMS &
THE LAW**

Illinois Representative William Preston proposed legislation (House Bill 0013) that would prevent museums from displaying human remains. The bill was originally intended to force the Dixon Mounds Museum and other museums displaying American Indian remains to close their burial displays to the public and remove all objects that are made from human bones from their exhibits. The legislation would not stop there, however, and would even require museums to remove human skeletons from comparative anatomy displays, such as the one in the Museum's Hall of Animals.



Human skeleton displayed with that of Gorilla in the Museum's Hall of Animals.

Representative Preston's legislation would adversely affect many museums throughout Illinois, including the Field Museum of Natural History, the University of Chicago's Oriental Institute, Museum of Science and Industry, the Illinois State Museum, and the University of Illinois' World Heritage Museum, all of which display human remains. Even though displays in these museums are educational, they would not conform to the very limited educational guidelines in the bill, which are designed to permit access to human remains only in controlled laboratory classes.

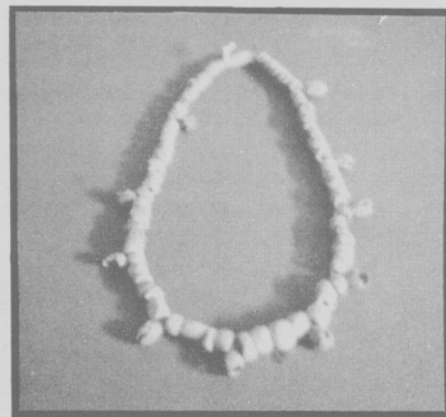
This and two related bills were tabled in committee and not sent to the house for a vote, but Representative Preston has vowed to offer similar legislation again, so it remains a threat. It is not the only threat, however, but merely part of converging efforts throughout the United States, Canada and parts of Europe to curtail museum presentations of certain kinds of ideas and information.

Several factors are at work in these efforts. American Indians' rightful demands for respectful treatment of their ancestors' remains are only a part of this. Leaders of many minority groups, including recent campus speaker Cherokee Chief Wilma Mankiller, have expressed the need to eliminate traditionally-held stereotypes. Canadian native leader George Erasmus recently stated

"We do not want to be depicted the way we were, when we were first discovered in our homeland in North America. We do not want museums to continue to present us as something from the past" (*Journal of Museum Education*, vol. 16).

An important mission of many museums, however, is to preserve and depict the history of cultures to help us understand how modern cultures developed.

Mr. Erasmus' statement suggests that stereotypes can be eliminated through the suppression of historical knowledge. History records that human groups have always stereotyped other human groups and, although characterizations will change, probably always will. Representative Preston's proposed legislation suggests that the public would benefit from reduced access to the knowledge about cultures and even human anatomy currently provided by many museums. Museums, educators and researchers apparently need to make a louder, if not stronger case, that more rather than less knowledge is the best tool for reducing cultural stereotyping and improving our understanding of humanity and human biology.

**WEST MEXICAN COPPER
BELLS**

Copper bells from western Mexico, AD 800-1200.

Analysis of copper bells in the Museum's anthropology collection determined that they were made between AD 800 and 1200.

In ancient western Mexico, bells were worn by deities and important individuals,

and were one of the most common metal items made there. Copper working in Mexico began about AD 800, apparently resulting from contact with Ecuador, where copper working was already established. Between AD 800 and 1200, copper with small amounts of other metal impurities, such as arsenic, silver, and tin, was cast into bells. After 1200-1300, bronze of copper and either tin or arsenic, or an alloy of copper and silver were employed for technological or esthetic reasons.

A necklace of stone beads and 10 metal bells, donated to the Museum by Herbert S. Zim, was recently removed from display so we could display a new exhibit on Mesoamerican archaeology. Stylistically, these bells appeared to date to between AD 800 and 1200, but the Museum had no substantiating information on their antiquity. As long as they had been taken off display, this seemed an opportune time to have them analyzed. Curator Charlie Keller contacted Sarah Wissemann, Assistant Director of the Program in Ancient Technologies and Archaeological Materials, who arranged for the bells' analysis at the State Geological Survey.

Richard Cahill, Analytical Chemist, and Ray Henderson, Staff Chemist at the Geological Survey, conducted an analysis using an energy dispersive x-ray, a technique that does not require removal of any material from the artifact, and leaves it unchanged when the examination has been completed. The examination determined that the bells were almost completely copper with minute amounts of tin and silver impurities. The presence of impurities in ancient metals is common, because the smelting and refining technologies did not permit the production of "pure" metals.

INTRODUCTORY EVOLUTION

Director Thomas Uzzell shares responsibilities this spring with Dr. Greg Whitt in teaching EEE 301, *Introduction to Evolution*. About 75 students are enrolled, mostly seniors and graduate students.

The course text is Charlotte Avers' *Process and Pattern in Evolution*. It's unusual among evolution texts in the sweep of knowledge it provides as a context for studying biological evolution. A consideration of the origin of the Universe provides context for discussing the origin

of life. Much "chemical evolution" as well as the geological record of the earliest life forms is considered, but the book also treats most of the more common topics in studies of evolution: biological diversity since the Cambrian Period, population genetics, speciation and adaptation, as well as human evolution and culture. Because of its extensive coverage, some topics are covered less intensely than others.

This text takes an interesting approach, however, and one that offers something exciting for the Museum's exhibit program: we have on display a great diversity of objects, from meteorites to geological structures, rocks and minerals and a great variety of plants and animals, both fossil and living. We have had a special display emphasizing the importance of using biochemical methods for studying phylogeny and evolution. Here's a possible thread to tie them all together: a comprehensive view of evolution, of variability and adaptation, in which the great exhibit collections can be made to inform both the University community and the public about principles of cosmology, chemistry and physics, geology, biology, and anthropology.

EVENTS

Ukrainian Easter egg decorating. Nearly 250 visitors came to see Vera Samycia, an expert at making traditional Ukrainian Easter eggs, or *pysanky*, demonstrate her craft and display some of her exciting creations in the Museum's third floor gallery, the afternoon of 3 March. Another 60 visitors participated in a *pysanky* workshop conducted by the university's Ukrainian Student Association.

Mrs. Samycia has decorated Easter eggs in the traditional style of her native Ukraine for the past 20 years. Some of her best works have been displayed at the Chicago Art Institute and at the University of Illinois-Chicago campus. She has given numerous demonstrations in the Chicago area and regularly teaches classes at the Ukrainian National Museum in Chicago.

Members of the Ukrainian Student Association also provided a taste of traditional Ukrainian food.

— Our thanks to Assistant Director Carol Knauss and the World Heritage Museum for providing chairs for the workshop.

Earth Day Expo. The Museum will participate in Earth Day Expo 1991, 20-21 April, at Market Place Mall. One of the Museum's biggest public outreach activities, the Expo brings some of our exhibit specimens and educational materials to hundreds of shoppers, many of whom have never visited the Museum itself.

Nearly 50 organizations will participate in this year's Expo weekend, including the Champaign County Forest Preserve, the Illinois Natural History Survey, and the Rainforest Action Group.

Lectures. The Museum offers or helps sponsor speakers on topics relating to its collections and research in anthropology, biology, and geology. In January, Curator Doug Brewer described his archaeological research on Old Kingdom sites in Egypt's Nile Delta in a slide presentation to members of the Allerton Women's Club. Curator Ralph Langenheim gave a slide talk on the geology of the Grand Canyon to members of the University Women's Club. Research Associate Donald Mikulic will be available beginning in the fall to present popular talks on dinosaurs and other fossils, the geology of Illinois, and the history of the stone industry.

The Museum joined with MillerComm to bring two speakers to the campus. On 2 April, Dr. Peter Ashton (Professor of Dendrology, Harvard University) spoke at 228 Natural History Building on the economic, social and political forces responsible for the current rates of deforestation in southeast Asia, suggesting ways in which these forces might be altered. His talk was followed by a well-attended reception at the Museum, where visitors had a chance to talk with him and members of the University's Rainforest Action Group over light refreshments.

On 4 March, best-selling author Jean Auel (*Clan of the Cave Bear*, *The Valley of Horses*, *The Mammoth Hunters*) told a large Foellenger Auditorium audience how she brings the paleolithic world to life. The anthropology department's Olga Soffer, introducing Ms. Auel, noted the need for popular authors to bring information about humanity's past to a broad audience that specialists in the field rarely reach. Later that evening, Ms. Auel signed copies of her latest book, *The Plains of Passage*, at a reception at the Krannert Center for the Performing Arts.

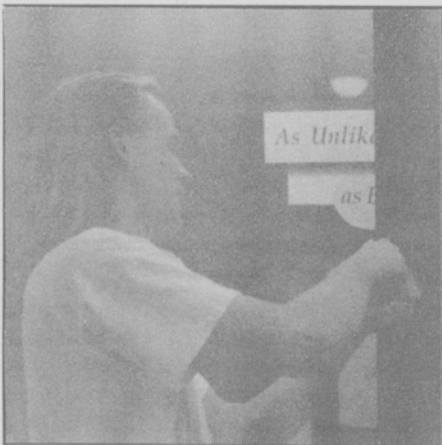
Away from campus, Doug Brewer joined a conference in New York on Egyptian archaeology, organized because

of travel restrictions preventing Americans from entering Egypt to conduct research. At the 27th annual meeting of the Illinois Chapter of the Wildlife Society in late February, Director Emeritus Donald Hoffmeister described his latest book, *Mammals of Illinois*, and autographed copies for those attending the meetings.

EXHIBITS/PROGRAMS

Contrary to radio broadcasts claiming that many of the Museum's exhibits were destroyed in the fire in the north wing of the Natural History Building, exhibits in this part of the building received only minor water damage. Director Thomas Uzzell began the repairs the day after the fire, repeatedly entering the building for limited periods of time and opening the flooded bison case to dry. Cleaning and repairing all of the affected exhibits will continue for the next few months.

Beth Sachrison, Nish Raval, and Haralds Robeznieks' work on the exhibit *Ceramic Figurines from Mesoamerica* is coming to a close. Nish and Beth began the exhibit as an independent study project with Curator Charlie Keller in the fall semester and were joined by Haralds in the spring under Curator Chuck Stout's direction. The exhibit, located temporarily in the Museum's new ethnographic gallery at the fourth floor entrance, will open on 30 April.



Museum student Haralds Robeznieks in the final assembly of the special spring exhibit *As Unlike as Eggs*.

The special spring exhibit *As Unlike as Eggs* was mounted in the Museum's third floor gallery, 7 March-1 April. One of the exhibit's two cases focused on spring festivities and symbolism using eggs. The other case displayed the naturally colored eggs of several native Illinois birds. Labels explained how distinctive natural

markings and coloration are created and what purpose they serve.

Heather Van Bladel is preparing a new design for the Museum's Mendel exhibit located in the second floor lobby of the Natural History Building. She is currently writing and editing new labels with Curator Joanne Kluessendorf. The Museum's collection of 21 original documents and photographs relating to Mendel's personal life, academics and genetic research are housed in environmentally-controlled dust- and light-proof storage. The exhibit currently contains facsimiles, and, when it is refurbished, it will also include interpretive labels.

Winter Signs, prepared by Joanne (displayed from 10 December through 1 March), and *Spring Signs* (displayed 3-28 March) prepared by independent study students Margie Lisnich and Abby Dobbins under Joanne and Chuck's direction, are the beginnings of a series of interactive offerings on natural and cultural characteristics of the four seasons to be displayed in the *Living Room*. Abby's research for *Summer Signs* (which will open 30 April) is complete, and its preparation has begun. Assistant Preparator John Loacker has added new cabinets and shelves to the *Living Room* for displaying our fish and other living animals, rocks, minerals, fossils, bones, and new seasonal exhibits.

Volunteer Myer Rosenfield has been working on several education/exhibit projects. He has contacted natural science educators in all regional secondary schools, letting them know the Museum is available to supplement their curricula. He has also worked with Chuck to prepare new museum maps and self-guided tours, which will provide visitors with a better idea where exhibits are and how they are related to each other.

Work continues on the *Evolution* exhibit. Joanne and Curator Ralph Langenheim have prepared draft labels on horse evolution. Tracy Jones, Haralds Robeznieks and Beth Sachrison have begun building new mounts for the hominid skulls.

In early February, thanks to Curator Erica Elswick and Director Duane Anderson of the Dayton (Ohio) Museum of Natural History, Chuck borrowed a glyptodon (*Glyptodon* sp.) skull so that the Museum could cast a replacement for its specimen, the head of which was misplaced or stolen during the 1930s. Chuck and Independent study students Laura Swanson and Haralds Robeznieks sealed

the cast surfaces, made latex molds, and produced new plaster casts of the cranium and separate lower jaw. With its head intact, our glyptodon will be on display by July in the main lobby of the Natural History Building, near the bison.

The exhibit *Did You Know the Prairie?* is slowly being dismantled. Four years ago, this exhibit was not expected to be displayed for more than a few months, but it was popular, so we left it in place. Attempts to refurbish it, however, became a major undertaking when we discovered that, under the fluorescent lights illuminating the cases, the color photographs of prairie flowers had deteriorated beyond restoration. This meant identifying old negatives that are not part of the Museum's collections or shooting new pictures. In addition, the farm equipment that was generously loaned to us by the *Early American Museum* in Mahomet had to be returned for their new exhibit on early Illinois agriculture.

The *Hall of the Past*, the main gallery on the 4th floor, is being rearranged to accommodate the mollusk collection, which is moving from Harker Hall (see *Collections & Library*, below). The Museum has begun its evaluation of the Illinois Humanities Council-funded *Traditional Nonwestern Cultures: Papua New Guinea and Arctic*. This review, consisting of solicited and unsolicited comments from visitors, anthropologists, and educators, has led to design and label changes, and will result in a report to the Illinois Humanities Council due in June.

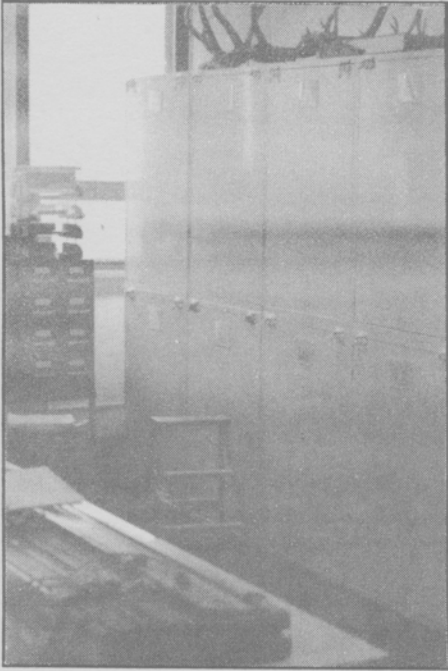
COLLECTIONS & LIBRARY

Malacology • The Museum's collection of mollusks, which were moved from the corridors of the Natural History Building to secure spaces in Harker Hall in 1983, will soon move back to the Natural History Building to make way for the U. of I. Foundation's occupancy of Harker Hall. We will house the mollusks in part of our fourth floor gallery. Although this will reduce the floor space devoted to displays, it will provide security for the mollusk collection. The displays themselves will be remounted using more wall cases and fewer two-sided ones.

The mollusk collection, like the Museum's mammalogy and herpetology collections, is ranked fifth among university collections nationwide. Although

loss of our office and collection space in Harker Hall considerably cuts Museum resources, there is a silver lining to this cloud: having the collection more centrally located yet in a secure space will make projects to care for and improve this collection far easier than they have been. We hope to have a small group of students working in the collection by fall of 1991. Eventually, this and the rest of the Museum's collections should be housed in a new building with better environmental control and security and with adequate space for the use and care of specimens.

Mammalogy • The mammal collection continues to improve at a slow pace. By the time Dave Nelson left in August 1990, most of the urgent curatorial work required for the collection had been completed: new specimens acquired over the past five years have all been cataloged; most have been installed in the collection, although a new case (scheduled for purchase early next fiscal year) will be needed to house all of the rabbits. Where to place the case is our most difficult problem.



The mammal collection area after the fire: no damage to the collection inside the cabinets.

Fighting the recent fire in the Natural History Building got some water onto the floor of one of the mammal ranges. No water entered the cases themselves; the cabinets were set on 2 x 4 blocks to allow their bottoms and the floors to dry. It's been a good chance to clean behind and beneath the cases.

Aine Shiozaki continues to work in the mammal collection, answering requests for information, installing a few additional specimens, and adding to the mammal data base. Over 8,000 records have been entered. Aine has also begun to develop a spelling checker for generic names.

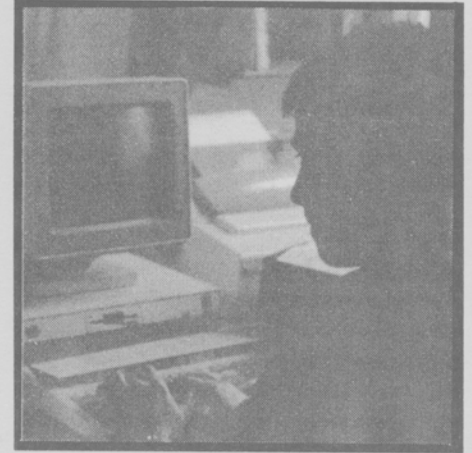
Herpetology • Dr. Christopher Phillips and undergraduates Emily Yep and Aine Shiozaki have made considerable progress in refreshing the alcohol in which the collection is stored. By the end of March, fluid in all of the storage tanks and 5-gallon jars had been changed. Metal tops on all 1- and 5-gallon jars have been replaced by soft plastic ones. Much of the material reidentified in the past few years has been reinstalled in the collection, but a major up-dating of the nomenclature awaits completion of the herpetology data base.

That project proceeds rapidly: as of this newsletter, Graduate Assistant Inne Choi has brought to 80,000 the number of records entered, out of a total of 95,000; all records will be entered by the beginning of summer. An extensive list provided by the American Museum of Natural History provides a look-up table to check spellings of generic names as well as supplying family and order entries automatically. Inne and Director Thomas Uzzell have also programmed a dictionary to check taxonomic and geographic spellings, which will produce much greater uniformity in data entry, and reduce the editorial burden for the remaining entries. We regularly use the data base to respond to queries about our holdings.

Anthropology • Work also continues on the anthropology collections. Debra Hettinger has spent the past several months documenting pottery vessels displayed in the exhibit *Ancient Midwestern Lifeways*. Much of the information was published in obscure site reports, but it was not written in the collection records when the objects were accessioned in the early part of the century.

Library • Work-study student Jeff Johnson and Graduate Assistant Russell Zanca have taken over this semester's entry of bibliographic information on the Museum's recently-acquired plant domestication library, compiled by former agronomy department professor Jack Harlan. There are now over 2,200 entries, but when complete, the computer bibliography will include all of the over 20,000

volumes and articles in the Museum's working library on anthropology, biology and geology. Eventually, staff and visiting researchers will be able to search for literature on these topics by author, title, date, subject, key word, or series.



Russell Zanca enters bibliographic data from the Museum's plant domestication library.

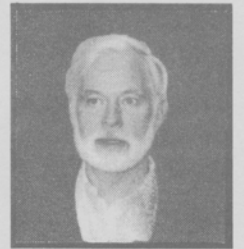
CELEBRATION AWARD!

The Museum received a \$250 award from the steering committee for the campus "Celebration of Our Ethnic and Racial Cultures" to support our March Ukrainian Easter egg demonstration and workshop activities. Curator Chuck Stout and Ukrainian Student Association Advisor Natalia Lonchyna prepared a short proposal submitted by Director Thomas Uzzell.

FROM THE DIRECTOR

This has been an exciting if sometimes stressful year for the Museum.

Things looked especially good in the fall when we finally became an independent unit within the College of Liberal Arts and Sciences, but there have been some rough moments since: because of a very tight state budget, the University has had to return part of its 1991 budget to the state, and must reallocate 5% of its salary budget to make raises possible for faculty and staff next year. As a result, closing of the Museum of Natural History was considered as one possibility by the Dean of LAS. Many of you wrote in support of the Museum, and closure is not in our future. Thanks for your help!



Even more threatening was a major fire in the 1892 part of the Natural History Building that, for a while, seemed about to engulf part of our important mammal collection. I stood outside for three cold tense hours, while firemen from several local departments poured thousands of gallons of water each minute on a blaze they could not see. In the end, we escaped almost unscathed: four windows knocked out to fight the fire, water *under* some of the mammal cases, and some water damage in the bison display. None of the other University collections (the geology library and the herbarium) in the old part of the building were damaged, either. We are now back to normal operations.

Next year is my seventh at the University of Illinois, and I'll take sabbatical leave for the entire year. The Alfred P. Sloan Foundation has provided a sabbatical supplement award in molecular evolution for the second half year. I'll join Professor Daniel Hartl's group at the Washington University School of Medicine in St. Louis. I plan to develop a series of genetic markers to use in studying the western Palearctic water frogs, a group of frogs remarkable for the partly clonal reproduction shown by *Rana esculenta* and two additional hybrid members.

The Museum will be in good hands. Our full-time secretary, Darlene Devore, recently won a superior performance award for her skills and patience in taking over, from the School of Life Sciences, all the complex personnel and financial affairs of the Museum. Darlene's been remarkable in managing the day-to-day business of the Museum.

Chuck Stout and Joanne Kluessendorf share responsibilities for exhibits and education programs in the Museum. Joanne has extensive museum experience based on work with the Field Museum, the Milwaukee Public Museum, and the paleontology collection of Northwestern University's Department of Geology. She has done a first-rate job of developing the Museum's gift shop, which no longer requires support from the Museum, but instead, with each passing month, contributes more support to the Museum's programs.

Chuck Stout has been my right-hand man ever since he was first assigned to the Museum as a Teaching Assistant in the Department of Anthropology. He also has extensive museum experience; fortunately, much of it was gained here, so he knows the museum well.

Curators Doug Brewer, Charlie Keller and Ralph Langenheim each bring to the Museum special talents and judgments that help make this place go: Doug has been indispensable in developing pro-

grams of care for our research collections. Charlie, through his museum studies class, provides significant increments of dedicated and skillful help with all sorts of Museum projects, and Ralph provides strong support for public programs, especially with public lectures and Museum field trips.

No great leaps forward are expected for next year, but I'm confident that, with your help, our progress will be steady and sure.

CAMPUS & COMMUNITY NEED MNH

The Museum of Natural History seems to have been in the news more than usual this year, first because it appeared that the College of Liberal Arts and Sciences might close it; shortly after, because a fire in the north wing of the building, built in 1892, threatened some exhibits and collections. Fortunately, the Museum's exhibits and collections remain sound, and the community's heightened awareness has provided better exposure for some of our happier offerings: the spring exhibit, *As Unlike as Eggs*; the *Living Room's* seasonal offerings; and our Ukrainian Egg Decorating demonstration and workshop. It has also made campus and community more aware of the vital role the Museum plays in both University and regional school educational programs as well as of the importance of the Museum's nationally-ranked research collections.

view and handle many objects they would otherwise know only through books and photographs. Special programs and exhibits help the public understand scientific developments and other cultures, past and present.

The Museum's research contributes to improved scientific understanding, the dissemination of knowledge, collection growth, improved documentation of specimens and cooperation between natural science disciplines. The collections record past distributions of organisms or cultures; the biological collections particularly serve as records of historical biodiversity. Our herpetology, mammalogy and malacology collections are each ranked fifth among university research collections in the United States.

The Museum was established in 1868 as an educational component of the University, and for its first 50 years, it curated and displayed the anthropology, biology, and geology collections of the School of Natural Sciences. During this period, the Museum accumulated extensive resources for teaching and display. Research programs and collections and graduate-level training began in 1917, when Frank C. Baker became Director (then called Curator); our important mollusk collection reflects his 20 years of effort. Shortly after World War II, then Director Donald Hoffmeister and Curator Hobart Smith began building our mammalogy and herpetology collections.



The Natural History Building, home of the Museum of Natural History, viewed from Green Street.

The Museum's purpose parallels the University's goals: teaching, research and service. The Museum teaches University students through individualized study using its collections, and through exhibits and classes. We teach adults and regional school students through our displays, guided tours, lectures, special programs, scientific literature and non-University classes. Our *Living Room* lets visitors

Since the Museum was established, both the University and the surrounding community have grown and become more diverse. The Museum remains committed to research, teaching, and building strong collections, but new and expanding public programs, and the application of advanced scientific knowledge and research methods, have become increasingly necessary to meet these goals. Continued success

will require an aggressive approach to training individuals who will improve understanding in the natural sciences, placing exhibits and literature in the broadest possible contexts of both science and everyday life, and, finally, presenting basic themes to the public in an engaging and informative format. We are trying to move ahead on these fronts, despite our limited budget; we have managed to update many of our exhibits, increase our volunteer support dramatically, build a strong and growing Friends group, open a gift shop, publish this newsletter and increase our public programming for adults and school groups within the community.

OLD COURSE WITH A NEW NAME

"Milestones in Ancient Ceramics and Metal Working" (Anthropology 250), offered jointly by the Department of Anthropology and the Campus Honors Program, is being taught this semester for the first time in several years by Sarah Wisseman and Curator of Anthropology Keller.

Sarah, Assistant Director of the Program on Ancient Technologies and Materials and Visiting Assistant Professor in anthropology, earned a B.A. in anthropology at Harvard and a Ph.D. in classics at Bryn Mawr, and wrote her dissertation on classical Etruscan and Roman ceramic technology. She has also done much experimental work replicating various kinds of pottery. Charlie has done comparable projects for museums and historic sites, replicating iron tools and hardware from 18th- and 19th-century America.

Topics common to both ceramics and metalworking form the core of the course, including pyrotechnology, exploitation of minerals for ores and glazes, and casting techniques.

In addition to lectures, the course includes pottery firing, bronze casting and iron forging demonstrations and visits to the Krannert Art Museum, World Heritage Museum, and Museum of Natural History, where students will become acquainted with relevant collections. The Museum of Natural History visit focused on the pottery displayed in its archaeological exhibit, *Ancient Midwestern Lifeways*.

The Museum Shop

*offers a wide selection of natural
history & ethnographic items*

- Dinosaurs • Books •
- Posters • Puzzles •
- Games • Note cards •
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*Gift certificates are available
—10% discount for Museum
Friends—*

*located inside the 3rd Floor
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Natural History in the Natural
History Building, 1301 West
Green Street, Urbana*

Hours:

*9 am-5 pm Monday-Saturday &
2-5 pm Sunday, except campus
holidays*

244-3182

ALUMNI RETURN

Several of the Museum's "alumni" have returned to campus and stopped by the Museum this year.

Andrew Stika, who took Don Hoffmeister's mammalogy course in 1952, and his wife Evelyn, live in Eden Prairie, Minnesota, where he is a professional resume writer and she a dress-maker. In November, on a trip farther south, they visited the Museum and other parts of the UIUC campus. Andrew also helped us locate another Museum alumnus, Col. Carlos Campbell, who is now in Bethesda, Maryland.

Donald R. Clark, who studied herpetology with Hobart Smith in 1961, visited us in January with his wife Pam Ogasawara. He's now at the Patuxent Wildlife Research Center in Maryland. We hope he'll return to the campus again

to give a paper at the 1992 meetings of ASIH and HL on this campus.

Kathryn Gubista, who received her M.S. with Curator of Mollusks Lowell Getz in 1984, visited the Museum in March to examine the small collection (nearly 50 specimens) she made in Zaire as part of her research. Kathryn is now a Ph.D. student at the Institute of Ecology, University of Georgia (Athens).

WHAT OUR FRIENDS SUPPORT

In a period of tight budgets, support from our Friends is increasingly important to the Museum's programs. During this past year, you have helped support several research and collection programs.

Most importantly, we have been able to obtain support for Dr. Christopher Phillips, Research Associate in Ecology, Ethology, and Evolution, to work in the herpetology collection. Chris, whose doctoral dissertation at Washington University in St. Louis involved studies of breeding pond fidelity in spotted salamanders (*Ambystoma maculatum*), has a post-doctoral position with Museum Research Associate Christina Spolsky. During this academic year, Chris has taken over supervision of all curatorial chores in the herpetology collection, including the extensive program of replacing much of the alcohol in the collection, decreasing the crowding in individual containers, and replacing the metal lids on screw-top jars with soft plastic ones (this program is supported by the Institute of Museum Services and the University of Illinois Graduate College). Thanks to Chris' effort, the collection records for loans, exchanges, and correspondence have been completely reorganized. He has also begun the challenging task of bringing the names used in the collection and those in our rapidly-building collection data base up-to-date.

Over the past four decades, Woodrow Goodpaster of Cincinnati has collected thousands of specimens for the Museum's nationally-ranked mammal collection. Funds provided by the Friends group has recently allowed us to add another 300 specimens, mainly from Florida, South Dakota and Alaska, to this collection. The South Dakota specimens will be included in a manuscript being prepared by Director Emeritus Donald Hoffmeister.

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What Our Friends Support (continued from p. 6) — The Museum regularly joins other campus units in bring notable speakers to the campus. Funds provided by the Friends group

helped us support the recent visit by Jean Auel to the campus. Our Friends group will also help sponsor the Museum's first "Dinosaur Day" (27 April; see *Dinosaur Day*, p. 8).

**Museum of Natural History
University of Illinois
438 Natural History Building
1301 West Green Street
Urbana, Illinois 61801**

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DINOSAUR DAY

On 27 April, the Museum will host its first Dinosaur Day, a half-day program for second-, third-, and fourth-graders. Students will be treated to a fossil hunt, a video on dinosaurs, crafts and other activities, as well as a snack. There is a \$5 registration fee, and participation is limited to 20 children.

The program was arranged by Cathy Blaszik under the supervision of Curator Joanne Kluessendorf. Cathy is being helped by fellow Education major Tammy Barcalow, Cindy Gentile, Julie Ondrus, Lisa Robb and Karla Vescovi. This program is being funded by the Friends group and the Museum Shop.

INSIDE

<i>A Case of Museums & the Law</i>	... 1
<i>West Mexican Copper Bells</i>	..... 1
<i>Introductory Evolution</i>	..... 2
<i>Events</i>	..... 3
<i>Exhibits/Programs</i>	..... 3
<i>Collections & library</i>	..... 3
<i>Celebration Award!</i>	..... 4
<i>From the Director</i>	..... 4
<i>Old Course with a New Name</i>	..... 5
<i>Campus & Community Need MNH</i>	.. 5
<i>What Our Friends Support</i>	..... 6
<i>Volunteers, Friends, Staff</i>	..... 7



Although we try not to ask our Friends to contribute more than once each year, we slip up from time to time. If there is an asterisk next to your name on the mailing label, you are a current member; please disregard our membership envelope if you receive one with this newsletter. If you are a current member and there is no asterisk by your name, please call us at (217) 333-2517 so that we can correct our records.

SPRING FIELD TRIP

On 2 May, members of the museum staff and friends group will visit geological sites and view the spring fauna and flora of Portland Arch and Delphi, Indiana. The Tippecanoe battle field is the planned lunch site.

VISITING THE MUSEUM

The Museum of Natural History galleries are located on the third and fourth floors of the Natural History Building, 1301 West Green Street, Urbana. There are other exhibits throughout the building's hallways.

The galleries are open 9 am to 5 pm Monday through Saturday and 2-5 pm Sunday, except campus holidays (Labor Day, Thanksgiving and the day after, Martin Luther King Day, Spring Break Day, Memorial Day, Independence Day).

When visiting from out of town, exit Interstate 74 at Lincoln Avenue, turn south to Green Street, and west on Green Street to Mathews Avenue. Metered parking is available on Mathews Avenue, in front of the Natural History Building, at a municipal lot near the corner of Green and Sixth streets and beneath Krannert Center for the Performing Arts (enter lower level from Illinois Street).

Doug Brewer, Inne Choi, Darlene DeVore, Charles Keller, Joanne Kluessendorf, Carol Knauss, Ralph Langenheim, Dee Robins and Myer Rosenfield helped make this *Newsletter* possible— Charles Stout and Thomas Uzzell, editors